



Williams Elementary School

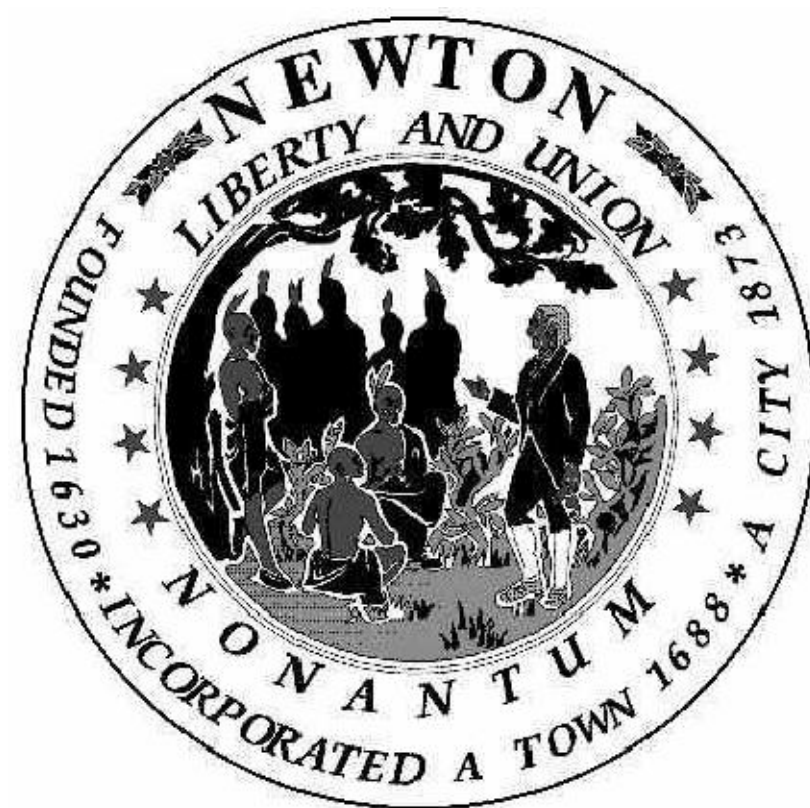
Williams Elementary School

141 Grove Street
Auburndale, Ma. 02466

Boiler Room Replacement Project

PREPARED FOR

DRAWING LIST



City Of Newton Public Buildings

SETTI WARREN / MAYOR

SHEET	TITLE
MECHANICAL	
M0.00	MECHANICAL - LEGEND, NOTES, & ABBREVIATIONS
MD2.00	MECHANICAL - UPPER & LOWER BOILER ROOM DEMOLITION PART PLANS
M2.00	MECHANICAL - UPPER & LOWER BOILER ROOM NEW WORK PART PLANS
M7.00	MECHANICAL - DETAILS
M7.01	MECHANICAL - DETAILS
M8.00	MECHANICAL - SCHEDULES
ELECTRICAL	
E0.00	ELECTRICAL - LEGEND, NOTES, SCHEDULES, DETAILS, AND PARTIAL RISER DIAGRAM
E2.00	ELECTRICAL - EXISTING CONDITIONS/DEMOLITION AND NEW WORK PART PLANS

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REVISIONS

DATE	CHK	DESCRIPTION

SEAL

PROJECT

NUMBER
20100289

DATE
08-20-10

WILLIAMS ELEMENTARY
SCHOOL
BOILER REPLACEMENT

141 GROVE STREET
AUBURDALE, MA

DRAWING

DRAWN BY
MW

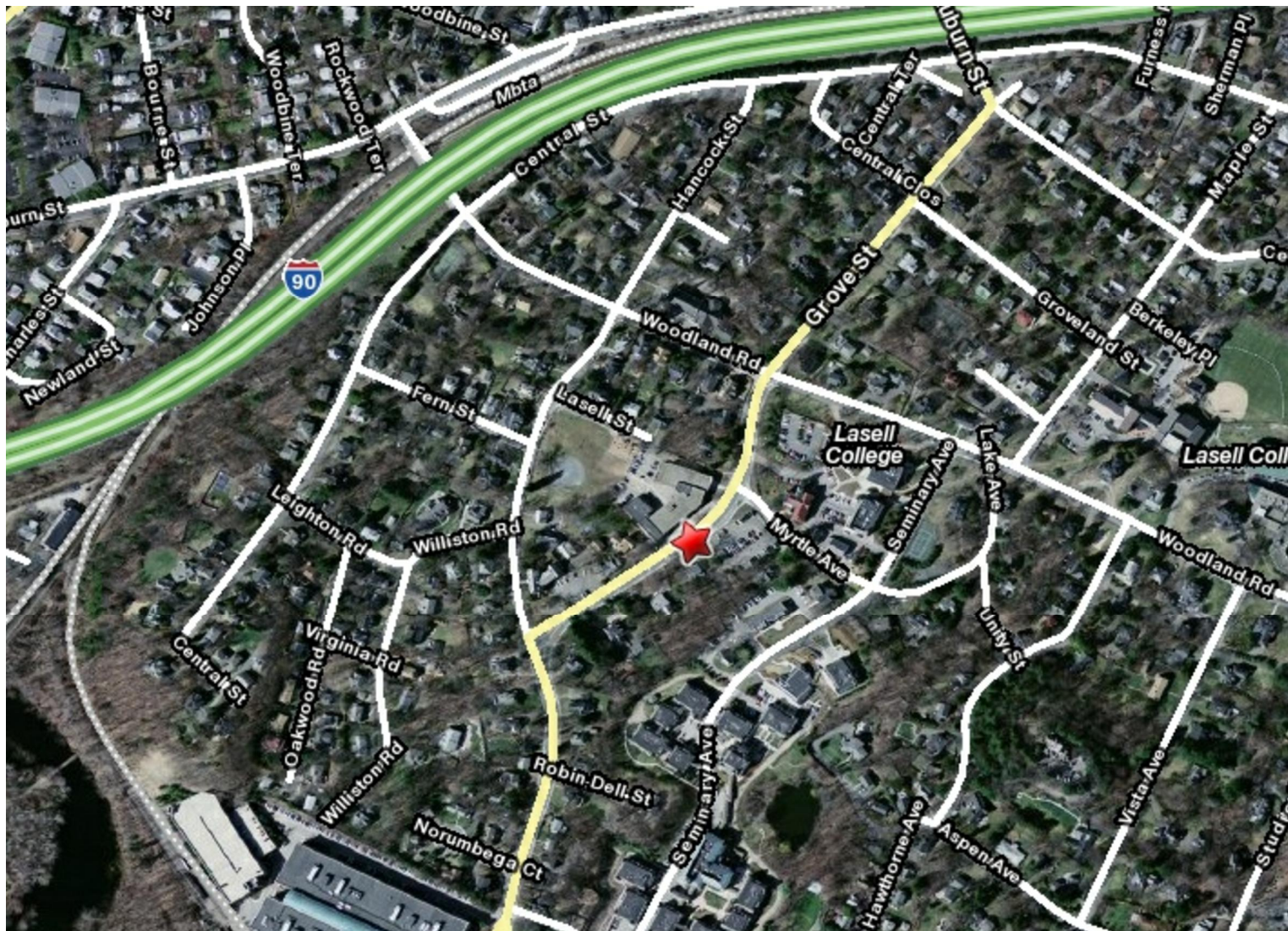
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SCALE
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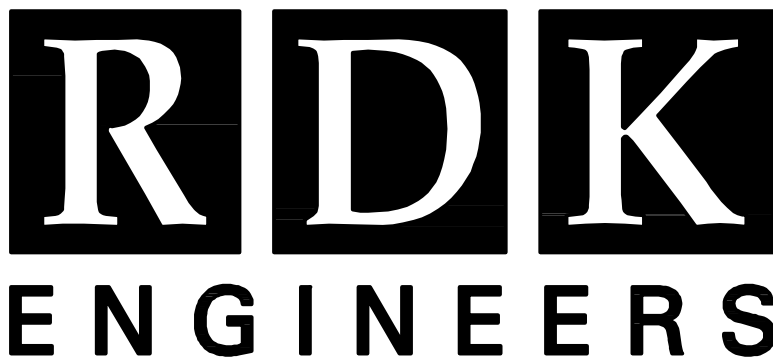
TITLE SHEET

FOR CONSTRUCTION
08-20-10

T0.00



Williams Elementary School



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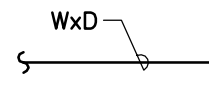
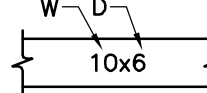

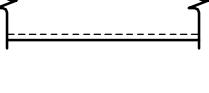
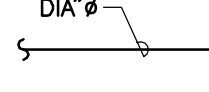
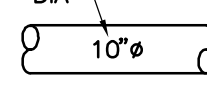

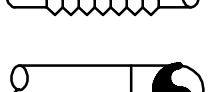
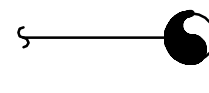
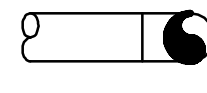
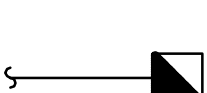
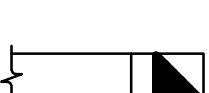
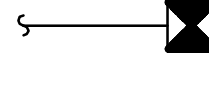
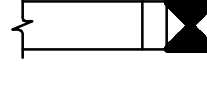
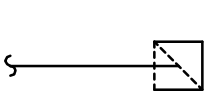
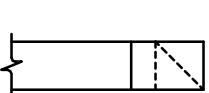
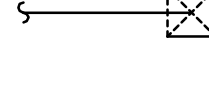

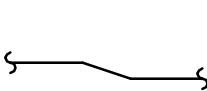
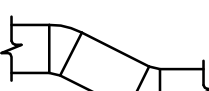


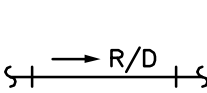
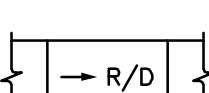
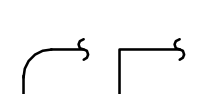
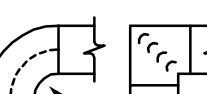


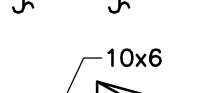
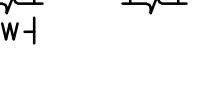
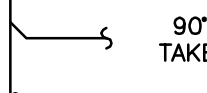
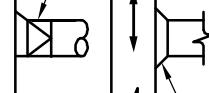
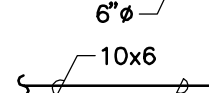
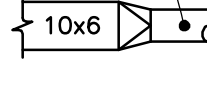

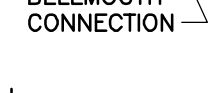

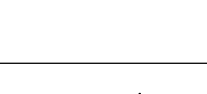
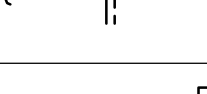
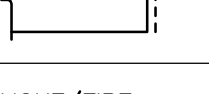
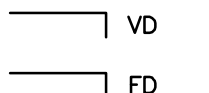

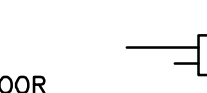
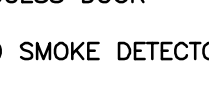
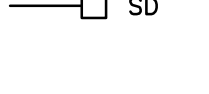
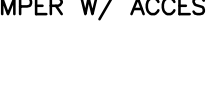

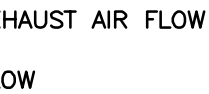








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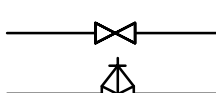
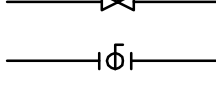
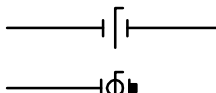
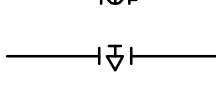
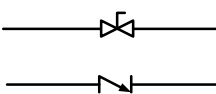
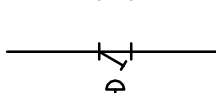
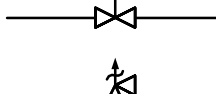
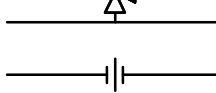
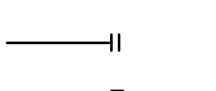
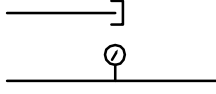
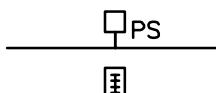
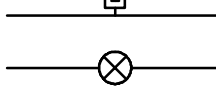
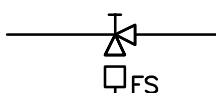
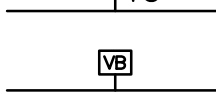
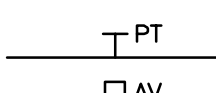
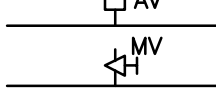
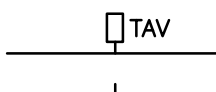
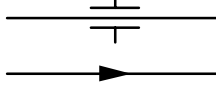
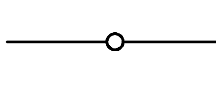
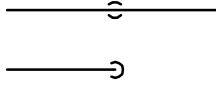
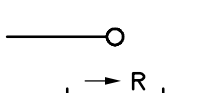
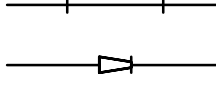
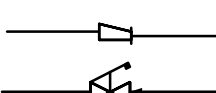
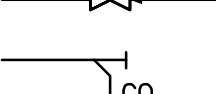
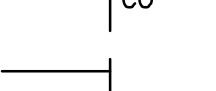
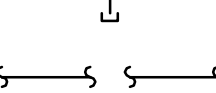
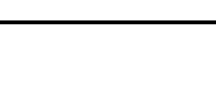
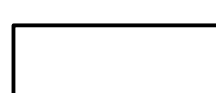






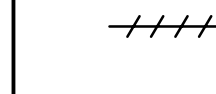
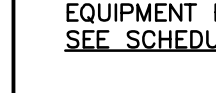
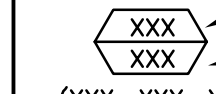
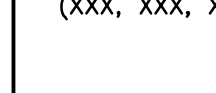
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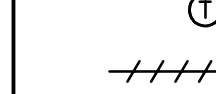

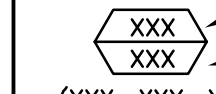
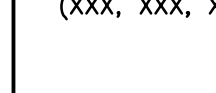


DUCTWORK PRESSURE CLASS AND SEAL CLASS				
PRESSURE CLASS	STATIC PRESSURE RATING	SMANCA SEAL CLASS	SMANCA LEAKAGE CLASS	DESIGN VELOCITY LIMITS
4"	4" POS. OR NEG.	A	6	3000 FPM OR LESS
3"	3" POS. OR NEG.	A	6	2500 FPM OR LESS
2"	2" POS. OR NEG.	B	12	2000 FPM OR LESS
UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS, USE THE FOLLOWING PRESSURE CLASSIFICATIONS FOR THE TYPES OF DUCTWORK LISTED BELOW				
4"(POS) CLASS:	ALL SUPPLY DUCTWORK BETWEEN THE DISCHARGE OF AIR SUPPLY UNITS TO THE INLETS OF SUPPLY TERMINAL VOLUME BOXES.			
4"(NEG AND POS):	ALL SUCTION AND DISCHARGE FUME HOOD, KITCHEN EXHAUST DUCTWORK AND FOR MEDIUM PRESSURE EXHAUST AND RETURN SYSTEMS, ALL DUCTWORK BETWEEN AIR EXHAUST AND RETURN UNITS TO OUTLETS OF EXHAUST AND RETURN TERMINAL VOLUME BOXES.			
2" CLASS	ALL OTHER DUCTWORK.			
NOTES: (SEE SPECIFICATIONS FOR FURTHER INFORMATION AND EXCEPTIONS).				
1. CONTRACTOR SHALL LEAK TEST (SUBMIT REPORT) A MINIMUM OF 25% OF THE SURFACE AREA FOR ALL DUCTWORK ABOVE PRESSURE CLASS 3".				
2. FOR NEGATIVE PRESSURE OVER 3" W.G., REFER TO SMACNA ROUND AND RECTANGULAR INDUSTRIAL DUCT CONSTRUCTION STANDARDS FOR JOINT AND INTERMEDIATE REINFORCEMENT REQUIREMENTS.				
3. FOR ROUND DUCTWORK, NEGATIVE PRESSURES OVER 2" W.G., REFER TO SMACNA ROUND INDUSTRIAL DUCT CONSTRUCTION STANDARDS AND BUILD TO NEGATIVE RATING SPECIFIED (-4" W.G. MIN.).				
4. LEAKAGE CLASS AND THE ASSOCIATED SEAL CLASS FOR DUCTWORK SERVING LABORATORIES, HOSPITAL OPERATING ROOMS, AND CLEAN ROOMS SHALL ALLOW 1/4 THE LEAKAGE LISTED: I.E., 2" PRESSURE CLASS WOULD HAVE LEAKAGE CLASS 6 WITH SEAL CLASS A (NOT CLASS 12 WITH B SEAL).				

DUCT INSULATION R-VALUES						
LOCATION	SUPPLY	RETURN	RAW OUTDOOR AIR	EXHAUST		
				ENERGY RECOVERY	NO ENERGY RECOVERY	
UNCONDITIONED SPACE (SHAFT OR CEILING WITH DUCTED RETURN AIR)	R-5	R-5	R-4	R-5	-0-	
EXPOSED IN MER	R-5	R-5	R-5	R-5	-0-	
EXPOSED IN SPACE SERVED	-0-	-0-	R-4	-0-	-0-	
* R-VALUE SHOWN IS ONLY IF AREA OF BUILDING BEING EXHAUSTED IS HUMIDIFIED. IF NOT HUMIDIFIED, NO INSULATION (-0-), UNLESS FIRE WRAP OR LINING IS NEEDED.						
NOTES: (SEE SPECIFICATIONS OR R-VALUES OF VARIOUS DUCT INSULATION AND LINERS).						
1. R-VALUE SHOWN MAY BE OBTAINED BY ADDING THE R-VALUES OF BOTH THE LINING (WHERE SHOWN OR USED) AND EXTERNAL DUCT INSULATION.						

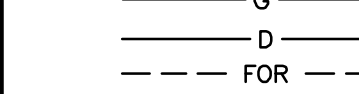
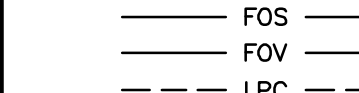
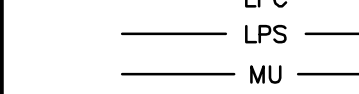
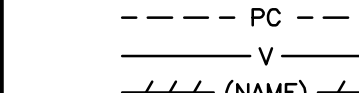
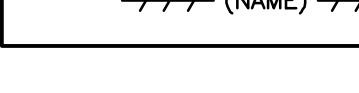




PIPE INSULATION									
MINIMUM INSULATION THICKNESS IN INCHES FOR INDOOR PIPE SIZES (SEE NOTES BELOW)									
PIPING SYSTEM TYPES		FLUID TEMP. RANGE (°F)	RUN OUTS TO 1"	<1"	1" TO 1-1/4"	1-1/2"	2" TO 3"	4" TO 6"	8" AND UP
MED. PRESS. STEAM/ MED. TEMP. HEAT		251-320	1	1.5	2.5	3	3	3.5	3.5
LOW PRESS. STEAM/ ANY STEAM COND./ LOW TEMP. HEAT		201-250	1	1.5	1.5	2	2	2	2
NOTES:									
1. FOR MINIMUM THICKNESS OF ALTERNATIVE INSULATION TYPES OUTSIDE THE STATED CONDUCTIVITY RANGE, SEE TEST METHOD FOR STEADY STATE HEAT TRANSFER PROPERTIES OF HORIZONTAL PIPE INSULATIONS, ASTM C 335-95, AND THE STATE ENERGY CODE.									

DUCTWORK			
SINGLE LINE	DOUBLE LINE	SINGLE LINE	DOUBLE LINE
 WxD RECTANGULAR DUCT W=WIDTH, D=DEPTH (INCHES UNLESS NOTED OTHERWISE) AS VIEWED	 W-D 10x6		
 DIA# ROUND DUCT (DIA=INSIDE DIAMETER)	 DIA 10"Ø		
			
			
			
 STANDARD RADIUS ELBOW (R = W) SUPPLY/RETURN/EXHAUST			
 FULL LENGTH SPLITTER VANES (R < W) SUPPLY/RETURN/EXHAUST			
 RECTANGULAR DUCT TO ROUND SUPPLY/RETURN/EXHAUST			
 RECTANGULAR DUCT TO ROUND SUPPLY/RETURN/EXHAUST			
			
			
			
			
			

PIPING LEGEND	
	GATE VALVE (OUTSIDE SCREW & YOKE UNLESS SPECIFIED OTHERWISE)
	OUTSIDE SCREW AND YOKE VALVE (OS&Y)
	BALL VALVE
	BUTTERFLY VALVE
	HOSE END BALL VALVE WITH CAP AND CHAIN
	PLUG VALVE
	GAS COCK
	CHECK VALVE (SILENT CHECK TYPE ON PUMP DISCHARGE)
	STRAINER WITH HOSE END BLOWOFF VALVE, CAP AND CHAIN
	2-WAY AUTOMATIC CONTROL VALVE (MODULATING)
	RELIEF/SAFETY VALVE
	UNION
	BLIND FLANGE
	PIPE - CAPPED
	PRESSURE GAUGE (W/ BALL VALVE(S), SNUBBER, AND FOR STEAM, SIPHON)
	PRESSURE SWITCH
	THERMOMETER
	STEAM TRAP
	ANGLE VALVE (SECTION VIEW)
	FLOW SWITCH
	VACUUM BREAKER
	PRESSURE/THERMOMETER WELL
	AIR VENT - AUTOMATIC
	AIR VENT - MANUAL
	THERMOSTATIC AIR VENT (STEAM ONLY)
	PIPE SLEEVE
	DIRECTION OF FLOW
	PIPE CONNECTION - TOP
	PIPE CONNECTION - BOTTOM
	PIPE - DOWN
	PIPE - UP
	PITCH OF PIPE - (R) RISE OR (D) DROP
	REDUCER - CONCENTRIC
	REDUCER - ECCENTRIC
	QUICK CLOSING VALVE, FUSIBLE LINK (USED WITH FUELS)
	CLEANOUT FOR CONDENSATE DRAIN
	DIRT LEG
	PIPE BREAK (SINGLE LINE)

CALLOUT SYMBOLS	
	LIMIT OF WORK
	KEY NOTE DESIGNATION
	CONNECT NEW TO EXISTING
	SECTION DESIGNATION SHEET NUMBER
	REVISION NUMBER
	TEMPERATURE SENSOR OR THERMOSTAT
	REMOVE EXISTING ITEM
EQUIPMENT REQUIRING ELECTRICAL SERVICE, SEE SCHEDULE FOR PERFORMANCE REQUIREMENTS:	
	SCHEDULED EQUIPMENT UNIT NUMBER
	FIRST DIGIT(S) = LEVEL WHERE UNIT IS LOCATED: SB = SUB-BASEMENT B = BASEMENT LL = LOWER LEVEL G = GROUND FLOOR 1 = FIRST FLOOR M = MEZZANINE R = ROOF
	SECOND DIGIT(S): 1 = FIRST UNIT OF THIS EQUIPMENT TYPE ON THIS LEVEL. 2 = SECOND UNIT OF THIS EQUIPMENT TYPE ON THIS LEVEL. 3 = THIRD UNIT OF THIS EQUIPMENT TYPE ON THIS LEVEL. (DUE TO EDITING NOT ALL NUMBERS MAY BE USED)
	UNIT CAPACITY INFORMATION (IF APPLICABLE-DATA VARIES DEPENDING ON TYPE OF EQUIPMENT) i.e. FOR FAN POWERED VAV BOXES: FIRST NUMBER = MAX. CFM SECOND NUMBER = MIN. CFM OR PERCENT OF MAX. CFM THIRD NUMBER = COIL GPM OR KW

ABBREVIATIONS			
GENERAL			
AD	ACCESS DOOR	PD	PRESSURE DROP
ADD'L	ADDITIONAL	PH	PHASE
AF	AIR FOIL	PBG	PLUMBING
AFB	ABOVE FINISHED FLOOR	POS	PROVIDED BY OTHER SECTION
AFR	ABOVE FINISHED ROOF	PSI	POUNDS PER SQUARE INCH
ALT	ALTITUDE OR ALTERNATE	PVC	POLYVINYL CHLORIDE
AMP	AMPERE	QTY	QUANTITY
AP	ACCESS PANEL	R	RADIUS
APD	AIR PRESSURE DROP	REQ'D	REQUIRED
ARCH	ARCHITECT	RLA	RUNNING LOAD AMPS
ATC	AUTOMATIC TEMPERATURE CONTROL	RM	ROOM
ATM	ATMOSPHERE	RPM	REVOLUTIONS PER MINUTE
AVE	AVERAGE	SCH	SCHEDULE
BHP	BRAKE HORSEPOWER	SCR	SCREEN
BL	BACKWARDS INCLINED	SDET	SMOKE DETECTOR
BLDG	BUILDING	SP	STATIC PRESSURE
BOD	BOTTOM OF DUCT	SPECS	SPECIFICATIONS
BSMT	BASEMENT	SQ	SQUARE
BTU	BRITISH THERMAL UNIT	SF	SQUARE FEET
BTUH	BTU PER HOUR	SS	STAINLESS STEEL
C TO C	CENTER TO CENTER	STL	STEEL
CENT	CENTRIFUGAL	T	TEMPERATURE
CF	CUBIC FEET	TEMP	TEMPERATURE
CFM	CUBIC FEET PER MINUTE	TSTAT	THERMOSTAT
CL	CENTERLINE	TOT	TOTAL
CLG	CEILING OR COOLING	TYP	TYPICAL
CO	CARBON MONOXIDE	V	VOLTS (ELECTRICAL)
COL	COLUMN	VEL	VELOCITY
CONC	CONCRETE	W	WIDTH OR WATT
CONN	CONNECTION	W/	WITH
CONTR	CONTRACTOR	WB	WET BULB TEMPERATURE
D	DRAIN OR DEPTH	WC	WATER COLUMN
DB	DRY BULB TEMPERATURE	WG	WATER GAUGE
DEG	DEGREE	W/O	WITHOUT
DDC	DIRECT DIGITAL CONTROL	BOILER	
DIA	DIAMETER	B	BOILER
DIM	DIMENSION	BBD	BOILER BLOWDOWN
DN	DOWN	BOT	BOILER BLOWDOWN TANK
DP	DIFFERENTIAL PRESSURE	BFU	BOILER FEED UNIT
EA	EACH OR EXHAUST AIR	BFP	BOILER FEED PUMP
ELEC	ELECTRICAL	DUCT	
ELEV	ELEVATION	ACD	AUTOMATIC CONTROL DAMPER
EMER	EMERGENCY	BDD	BACKDRAFT DAMPER
EMS	ENERGY MANAGEMENT SYSTEM	BOD	BOTTOM OF DUCT
ESP	EXTERNAL STATIC PRESSURE	EA	EXHAUST AIR
EXH	EXHAUST	EG	EXHAUST GRILLE
EXIST	EXISTING	ER	EXHAUST REGISTER
EXT	EXTERNAL	FD	FIRE DAMPER (W/ ACCESS DOOR)
F	FAHRENHEIT	MD	MOTOR OPERATED DAMPER
FA	FREE AREA	MUA	MAKE-UP AIR
FLA	FULL LOAD AMPS	OA	OUTSIDE AIR
FLEX	FLEXIBLE	OAI	OUTSIDE AIR INTAKE
FLDR	FLOOR DRAIN	OED	OPEN END DUCT
FPM	FEET PER MINUTE	TA	THROW AWAY OR TRANSFER AIR
FPS	FEET PER SECOND	TG	TRANSFER GRILLE
FS	FLOW SWITCH	TOD	TOP OF DUCT
FT	FEET	TR	TRANSFER
G	GAS	TSP	TOTAL STATIC PRESSURE (IN. WG)
GA	GAUGE	WMS	WIRE MESH SCREEN
GAL	GALLONS	EQUIPMENT	
GALV	GALVANIZED	DDC	DIRECT DIGITAL CONTROL
GC	GENERAL CONTRACTOR	EF	EXHAUST FAN
GPM	GALLONS PER MINUTE	ET	EXPANSION TANK
GRD	GRADE	EUH	ELECTRIC UNIT HEATER
HD	HEAD	F	FAN
HGT	HEIGHT	GRV	GRAVITY RELIEF VENT
HP	HORSEPOWER OR HIGH POINT	MUA	MAKE-UP AIR UNIT
HR	HOUR	PAC	PACKAGE AIR CONDITIONING UNIT
HTG	HEATING (FREQUENCY, CYCLES PER SECOND)	P	PUMP
HZ		UH	UNIT HEATER
ID	INSIDE DIAMETER	FUEL OIL	
IN	INCHES	FOG	FUEL OIL GAUGE
KW	KILOWATT	FOP	FUEL OIL PUMP
L	LENGTH	FOR	FUEL OIL RETURN
LAT	LEAVING AIR TEMPERATURE	FOS	FUEL OIL SUPPLY
LB	POUND	FOV	FUEL OIL TANK VENT
LF	LINEAR FEET	LPC	LOW PRESSURE CONDENSATE
LP	LOW POINT	LPS	LOW PRESSURE STEAM
LRA	LOCKED ROTOR AMPS	PC	PUMPED CONDENSATE
LVG	LEAVING	ST	STEAM TRAP
MAX	MAXIMUM	STM	STEAM
MBH	THOUSAND BTUH	TAV	THERMOSTATIC AIR VENT
MCA	MINIMUM CIRCUIT AMPS	VB	VACUUM BREAKER
MECH	MECHANICAL		
MEZZ	MEZZANINE		
MFR	MANUFACTURER		
MIN	MINIMUM		
MU	MAKE-UP WATER		
N/A	NOT APPLICABLE		
NC	NORMALLY CLOSED OR NOISE CRITERIA		
NIC	NOT IN CONTRACT		
NO	NORMALLY OPEN		
NO.	NUMBER		
NOM	NOMINAL		
NTS	NOT TO SCALE		
OA	OUTSIDE AIR		
OAI	OUTSIDE AIR INTAKE		
OC	ON CENTER		
OD	OUTSIDE DIAMETER		
ODP	OPEN DRIP PROOF		
OV	OUTLET VELOCITY		

PIPING ABBREVIATIONS	
	NATURAL GAS PIPING
	DRAIN
	FUEL OIL RETURN
	FUEL OIL SUPPLY
	FUEL OIL TANK VENT
	LOW PRESSURE CONDENSATE
	LOW PRESSURE STEAM
	MAKE-UP WATER
	PUMPED CONDENSATE
	VENT
	REMOVE EXISTING PIPING

HVAC GENERAL NOTES	
1.	GENERAL NOTES APPLY TO ALL DRAWINGS.
2.	PLUMBING WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE PLUMBING AND GAS CODE INCLUDING ALL LOCAL AMENDMENTS.
3.	OBTAIN ALL PERMITS AND PAY ALL FEES ASSOCIATED WITH THIS WORK PRIOR TO COMMENCEMENT.
4.	FURNISH AND INSTALL ALL NECESSARY PIPING, EQUIPMENT SUPPORTS AND ANY EQUIPMENT NOT SHOWN ON DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS BUT NECESSARY TO PROVIDE A COMPLETE AND WORKABLE SYSTEM.
5.	PROVIDE ACCESS TO ALL EQUIPMENT REQUIRING PERIODIC SERVICE AND MAINTENANCE.
6.	PIPING SHALL RUN CONCEALED IN ALL AREAS WITH THE EXCEPTION OF MECHANICAL ROOMS, AREAS WHERE NO CEILING EXISTS OR WHERE NOTED ON THE PLANS.
7.	INSTALL DIELECTRIC COUPLINGS BETWEEN DISSIMILAR MATERIALS.
8.	PROVIDE DRIP LEGS FOR ALL GAS RISERS.
9.	AN AIR GAP OF AT LEAST TWICE THE EFFECTIVE DIAMETER OF THE DRAIN

[illegible]**PROJECT** [REDACTED]

WILLIAMS ELEMENTARY
SCHOOL
BOILER REPLACEMENT

DRAWING

SCALE _____
1/4" = 1'-0"

MECHANICAL
BOILER ROOM
DEMOLITION
PART PLANS

FOR CONSTRUCTION
08-20-10

$1/4" = 1' - 0"$

A horizontal graphic scale bar with alternating black and white segments. It is marked with '0' at the left end, '4'' in the middle, and '8'' at the right end.

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REVISIONS

DATE	CHK	DESCRIPTION

SEAL

PROJECT

NUMBER
20100289

DATE
08-20-10

WILLIAMS ELEMENTARY
SCHOOL
BOILER REPLACEMENT

141 GROVE STREET
AUBURNDALE, MA

DRAWING

DRAWN BY
MW

CHECKED BY
VW

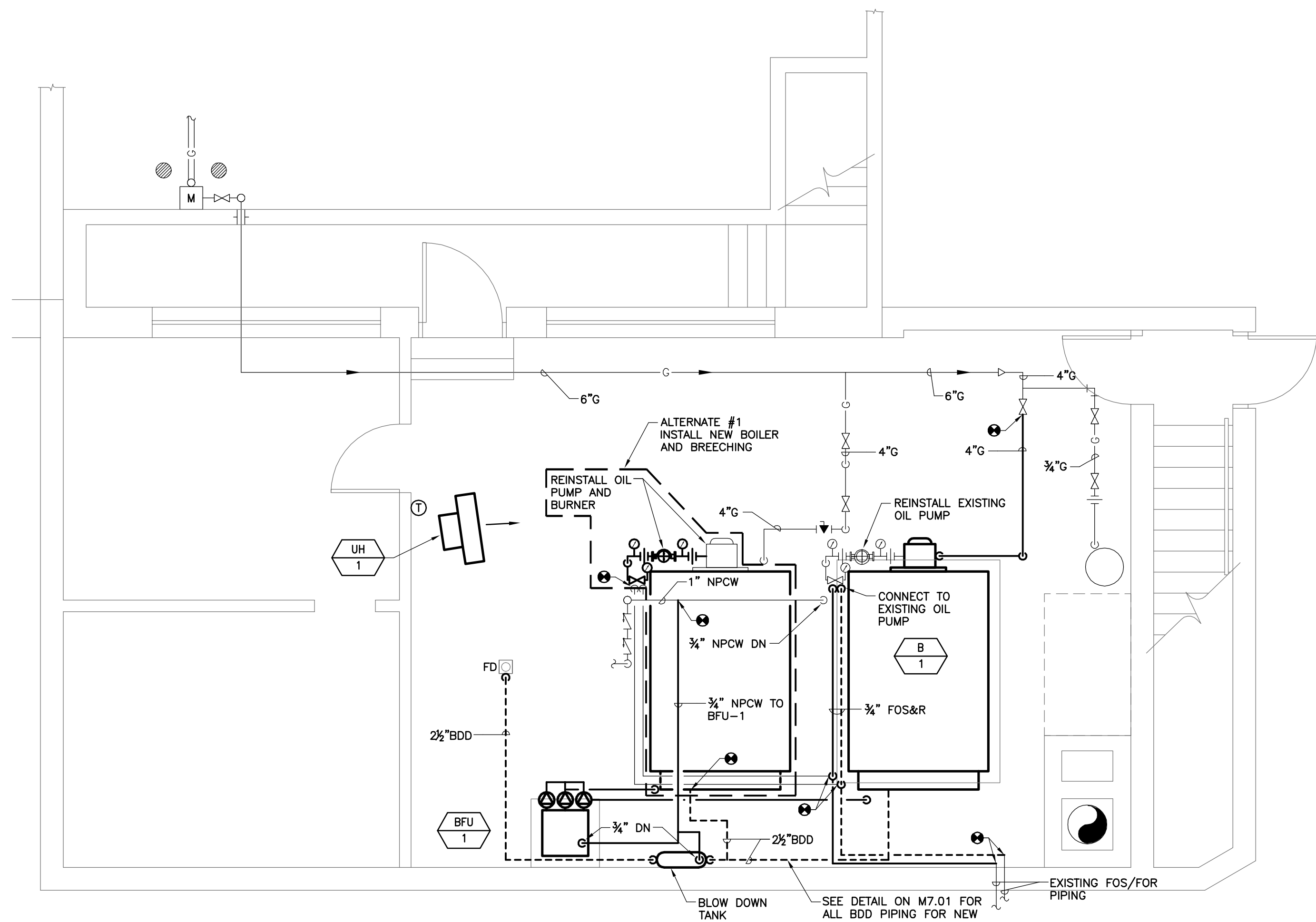
SCALE
1/4" = 1'-0"

MECHANICAL
BOILER ROOM
NEW WORK
PART PLAN

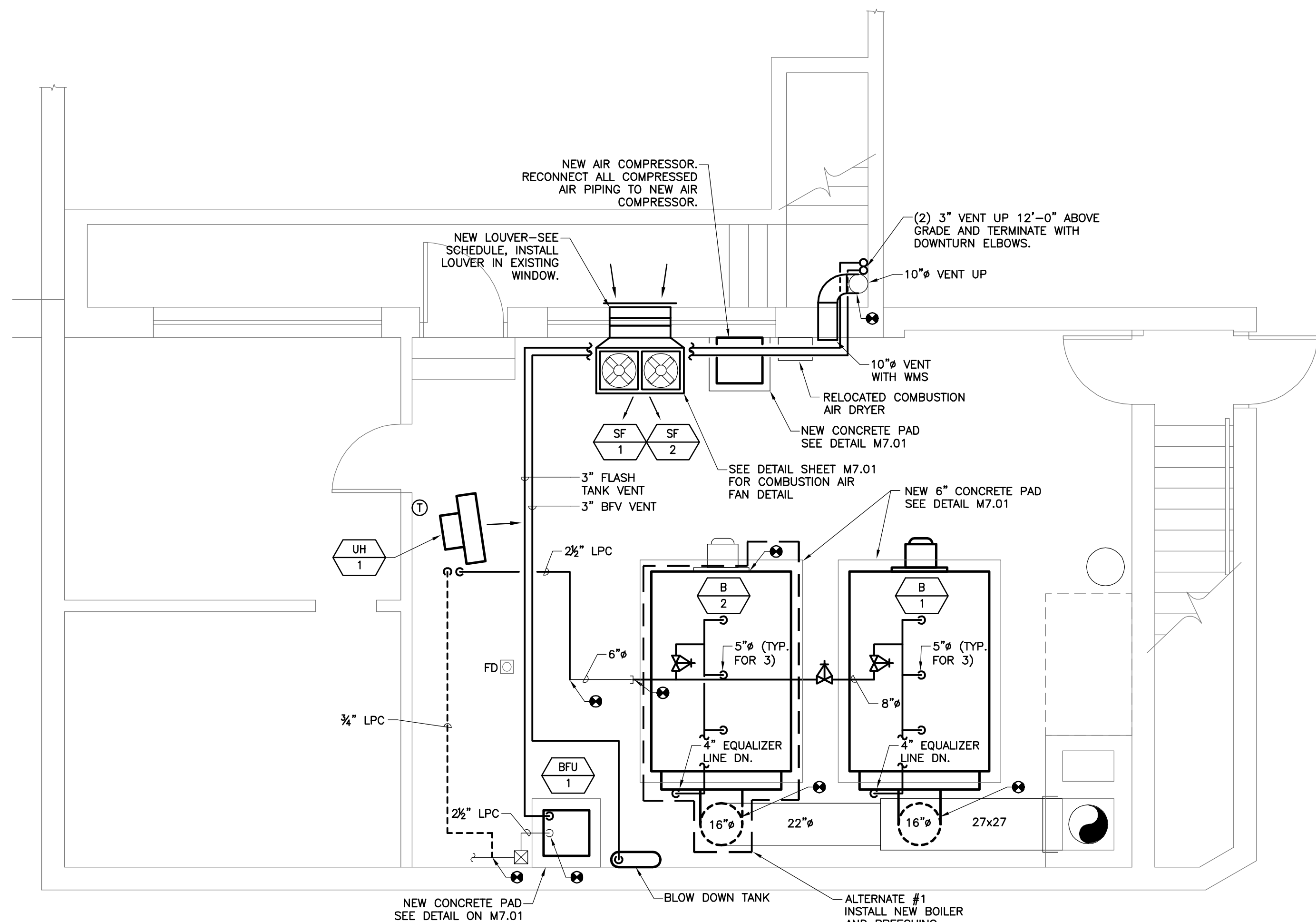
FOR CONSTRUCTION
08-20-10

1/4" = 1' - 0"
0 4' 8'

M2.00



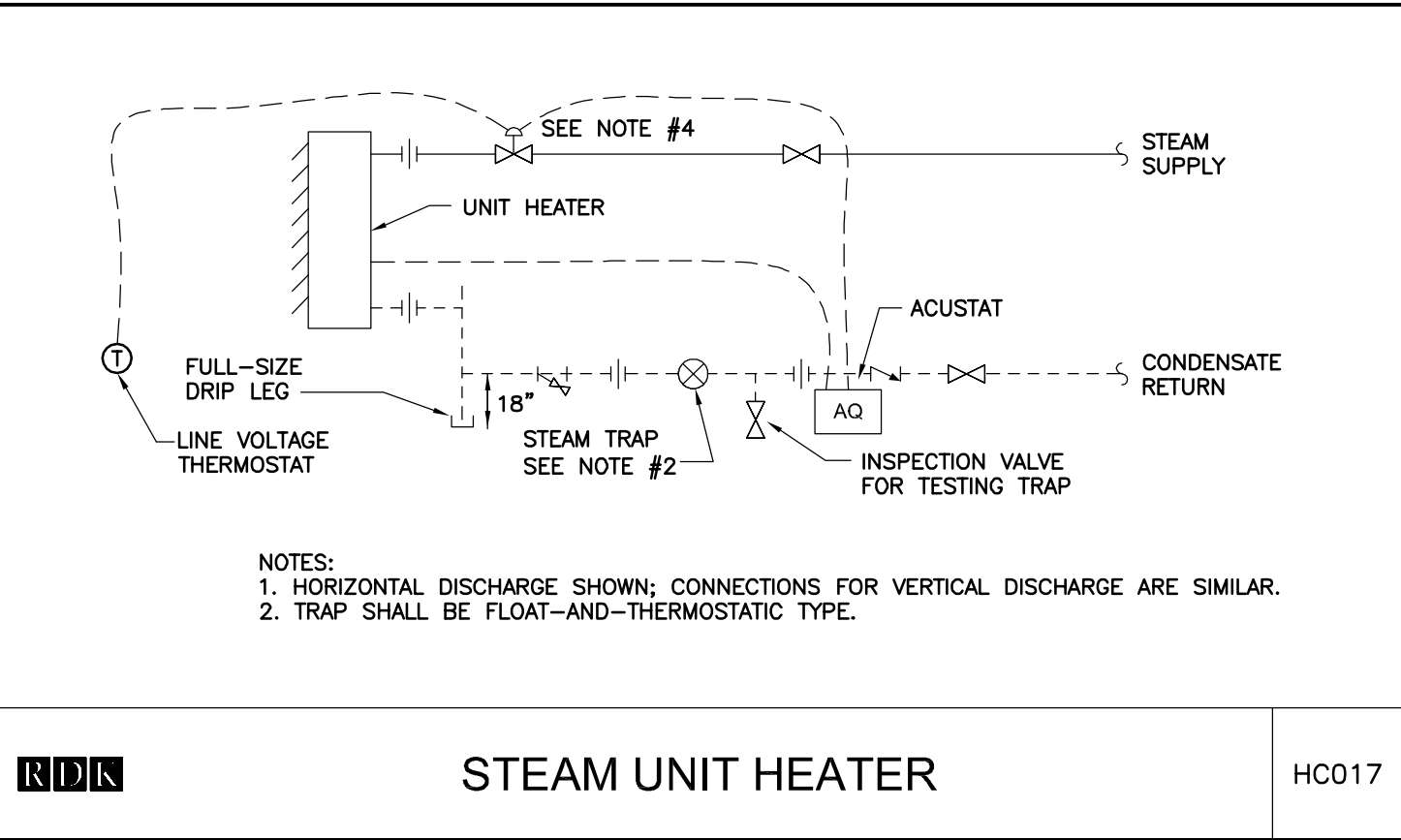
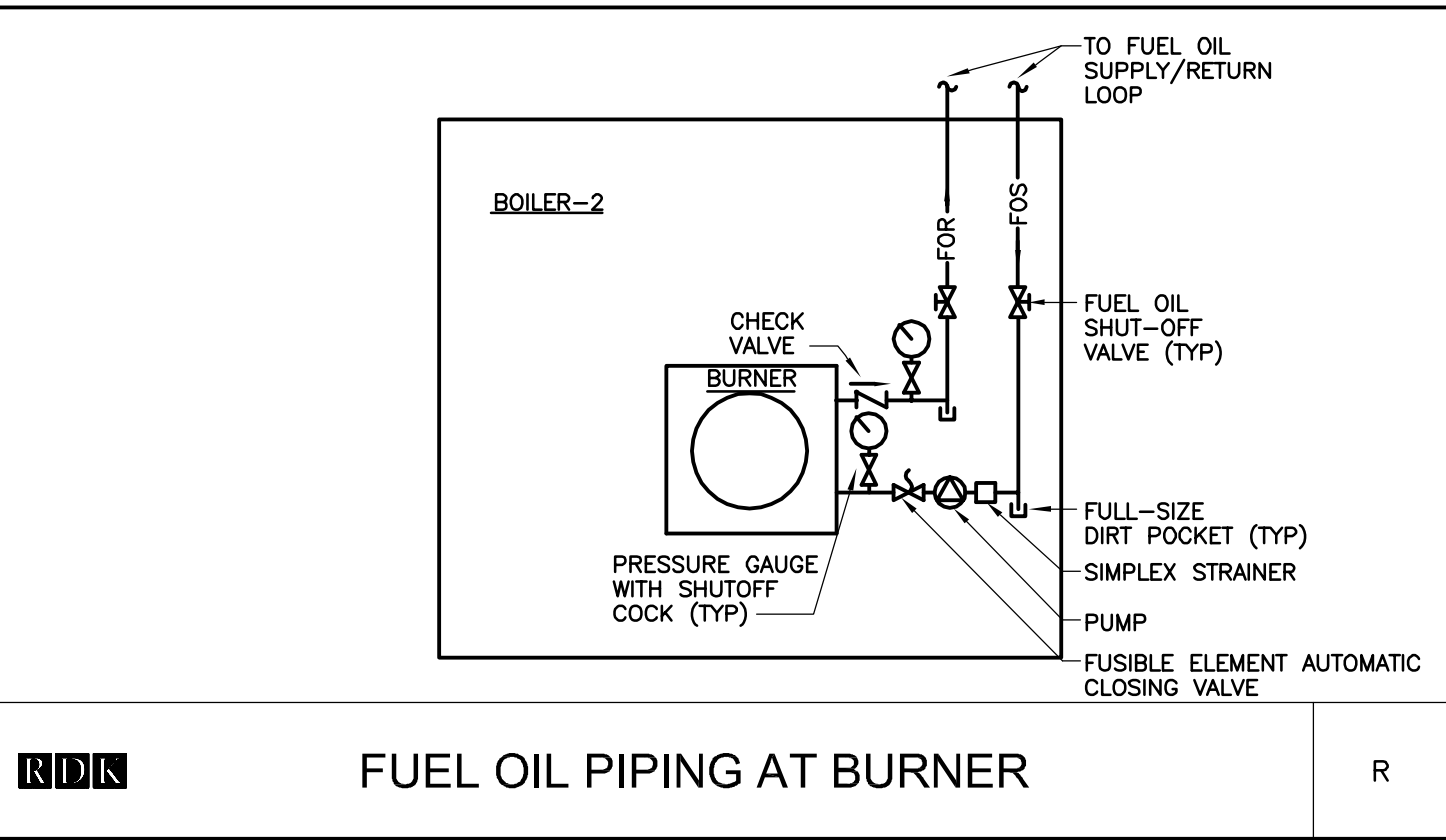
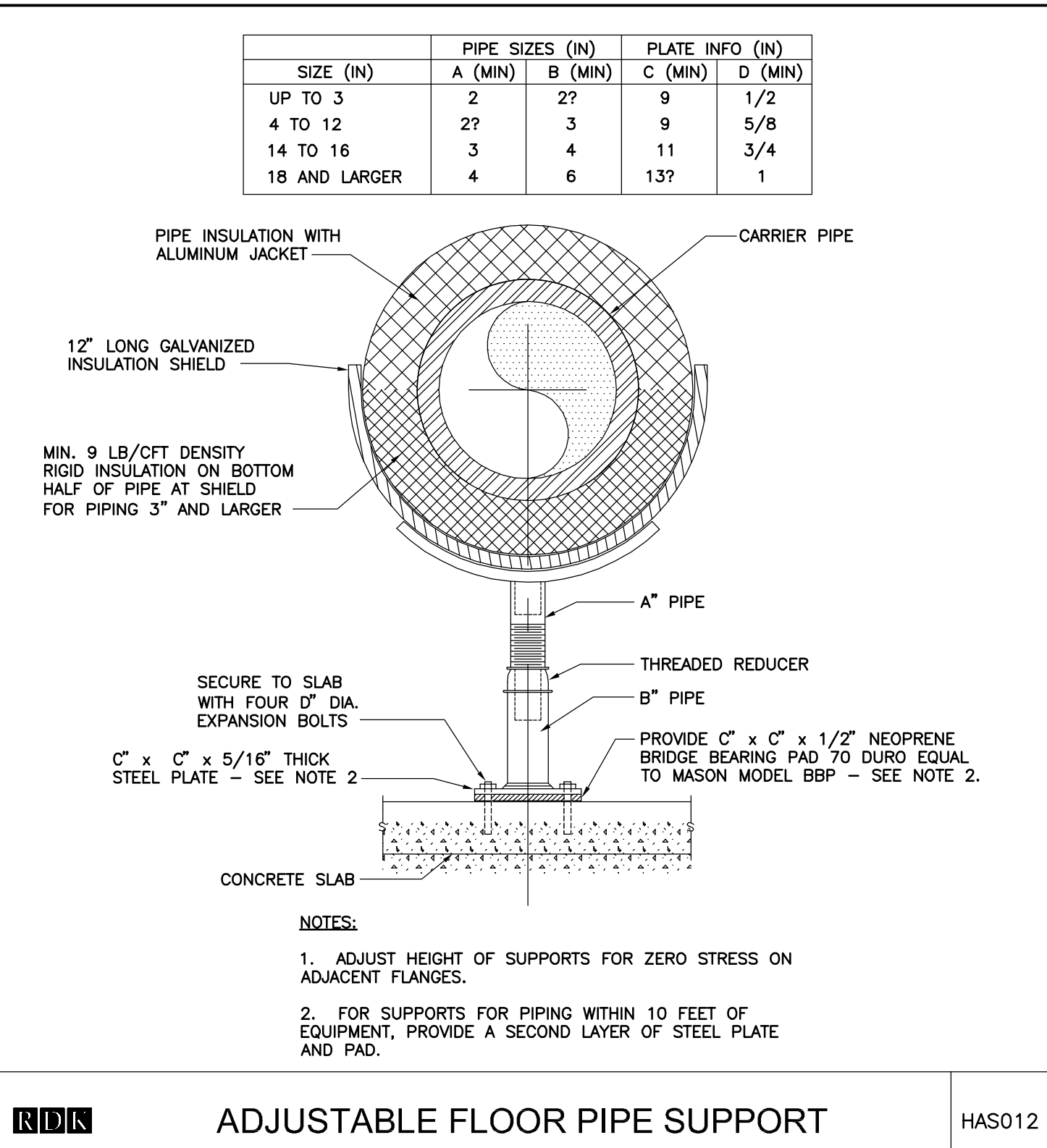
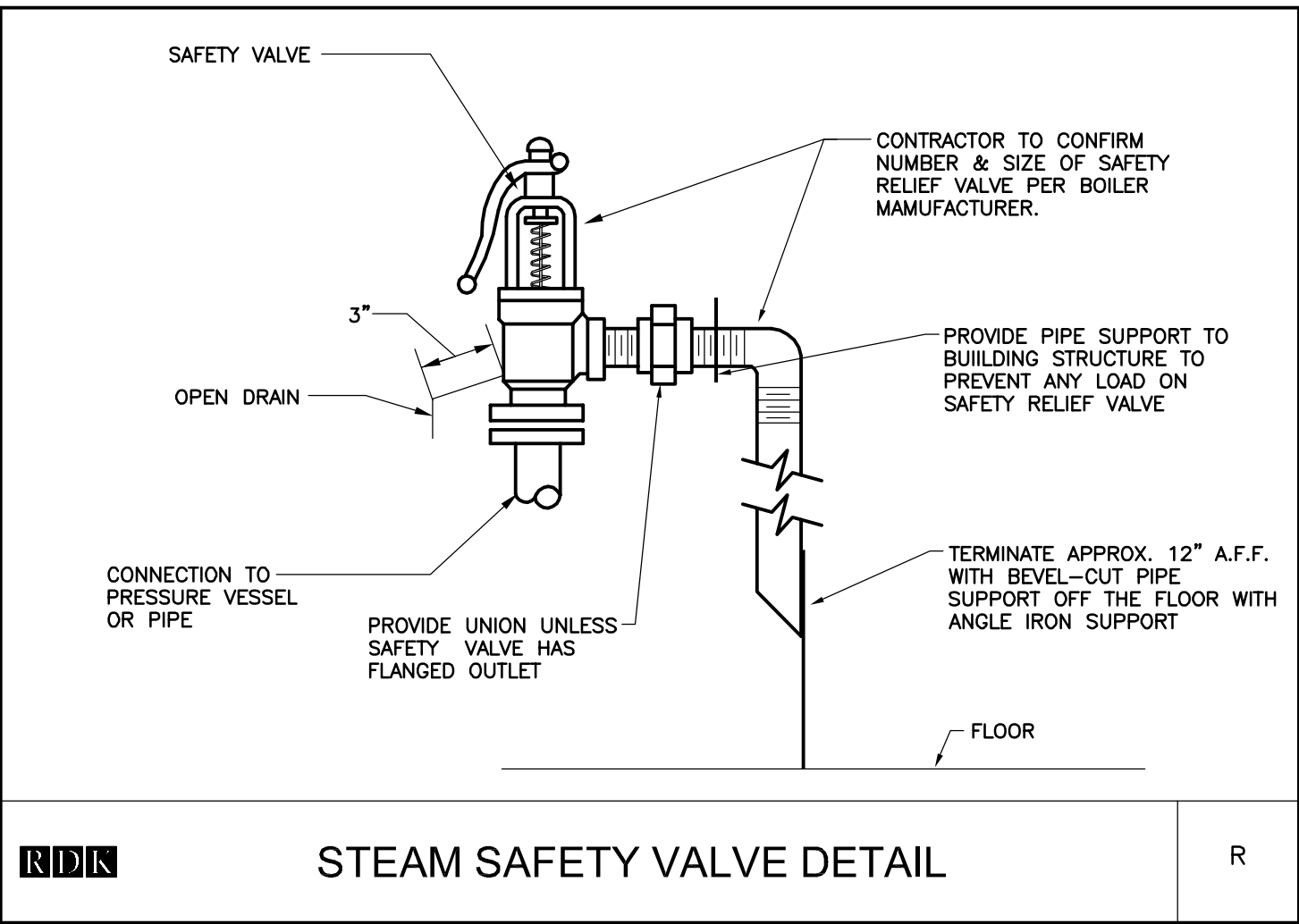
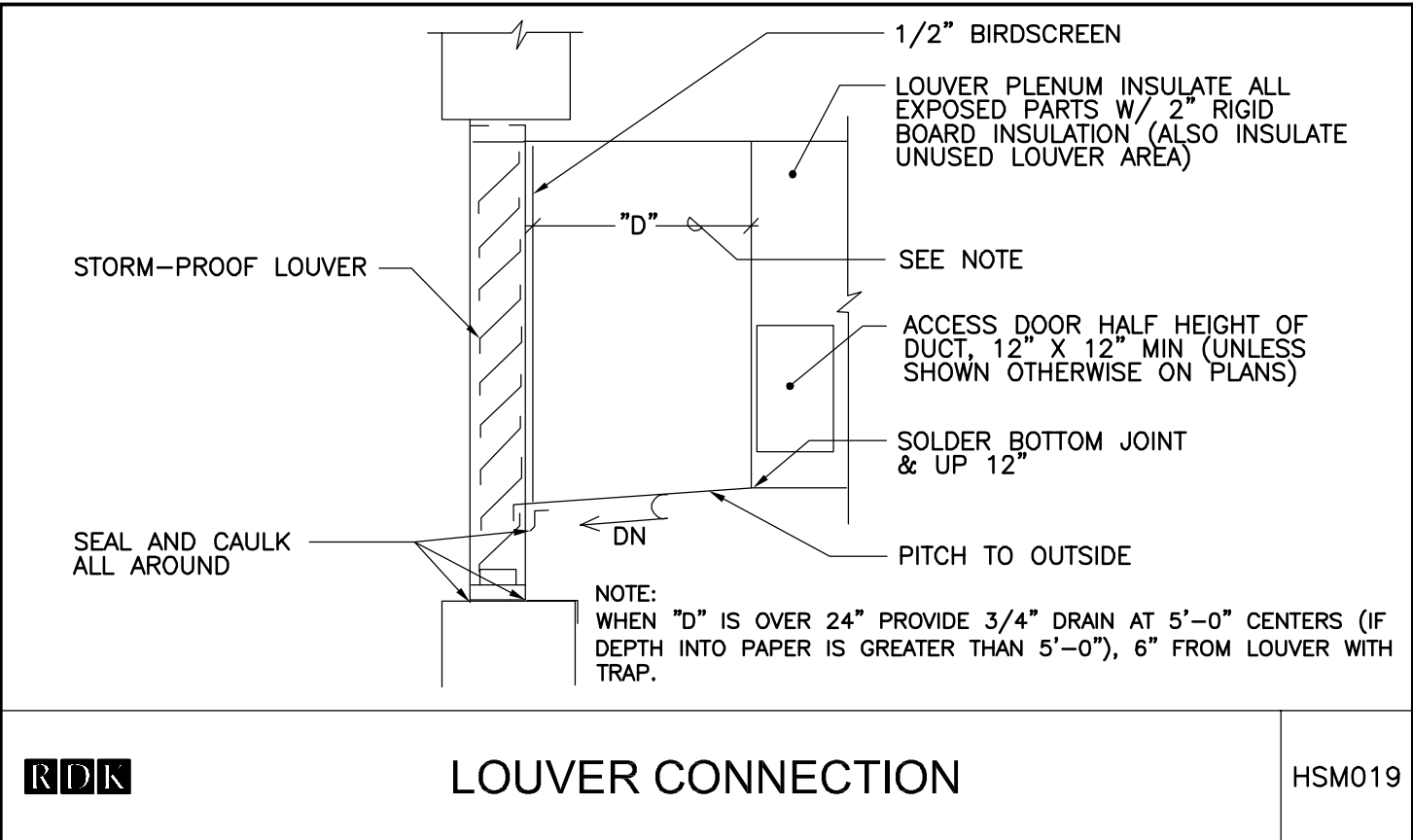
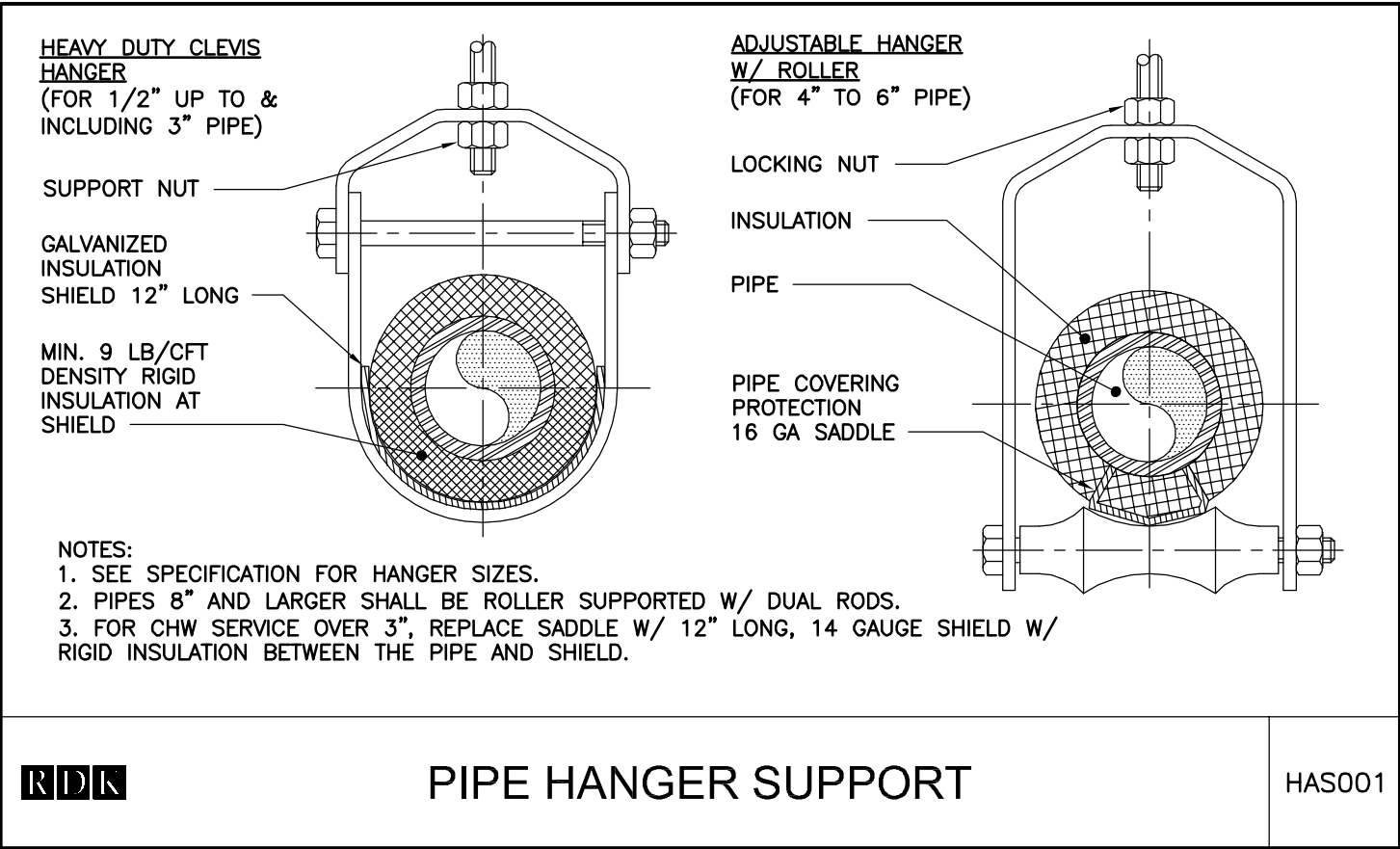
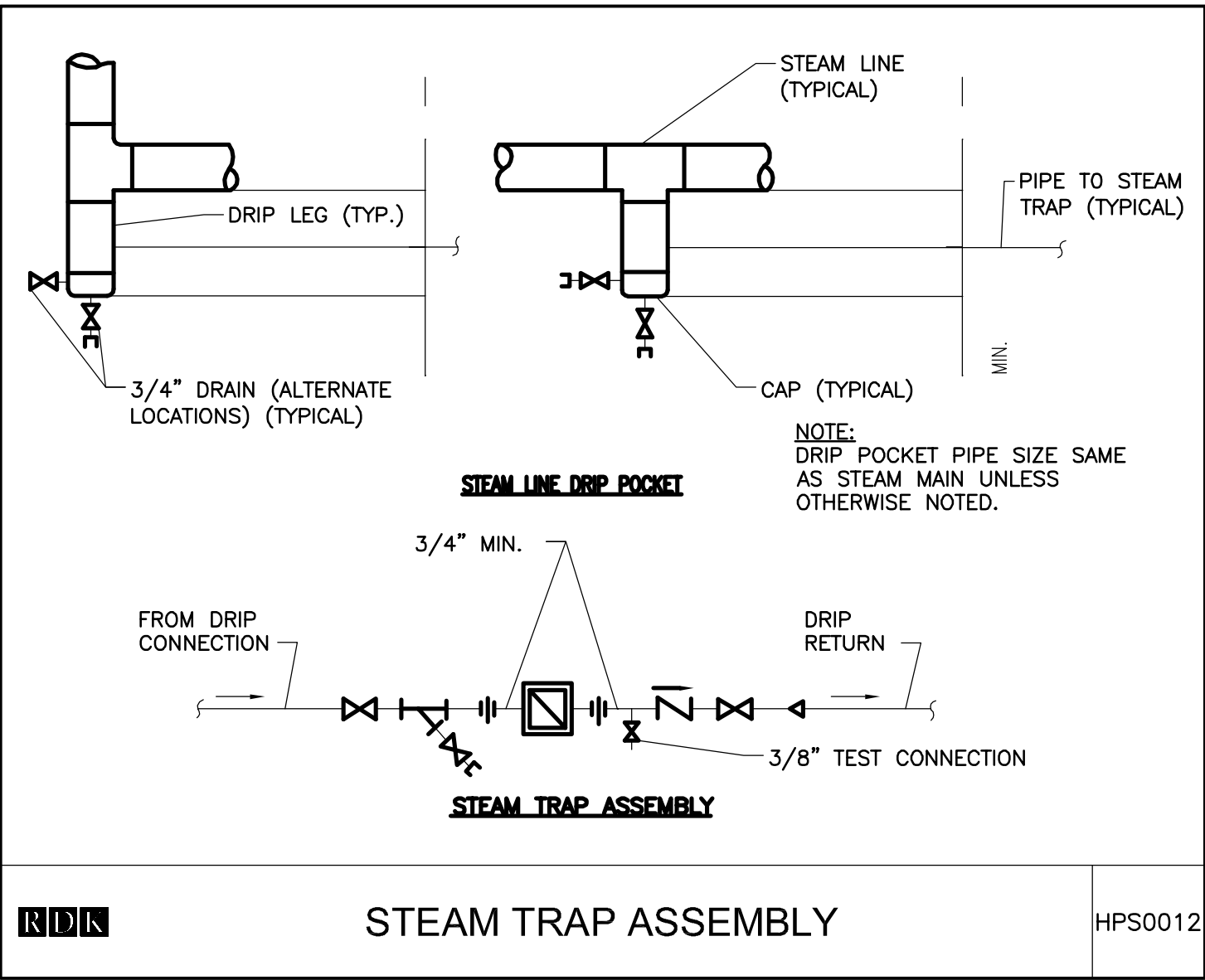
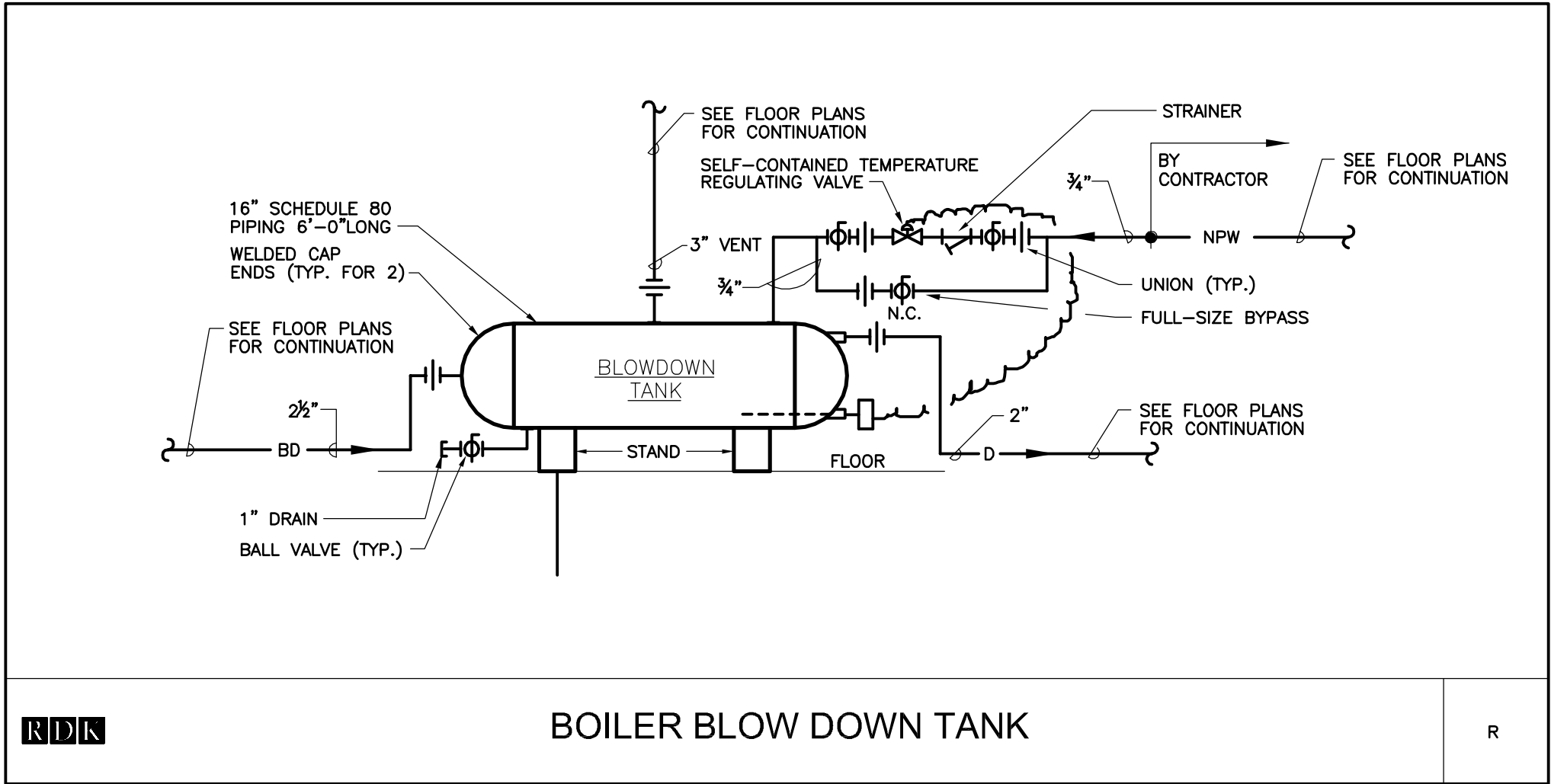
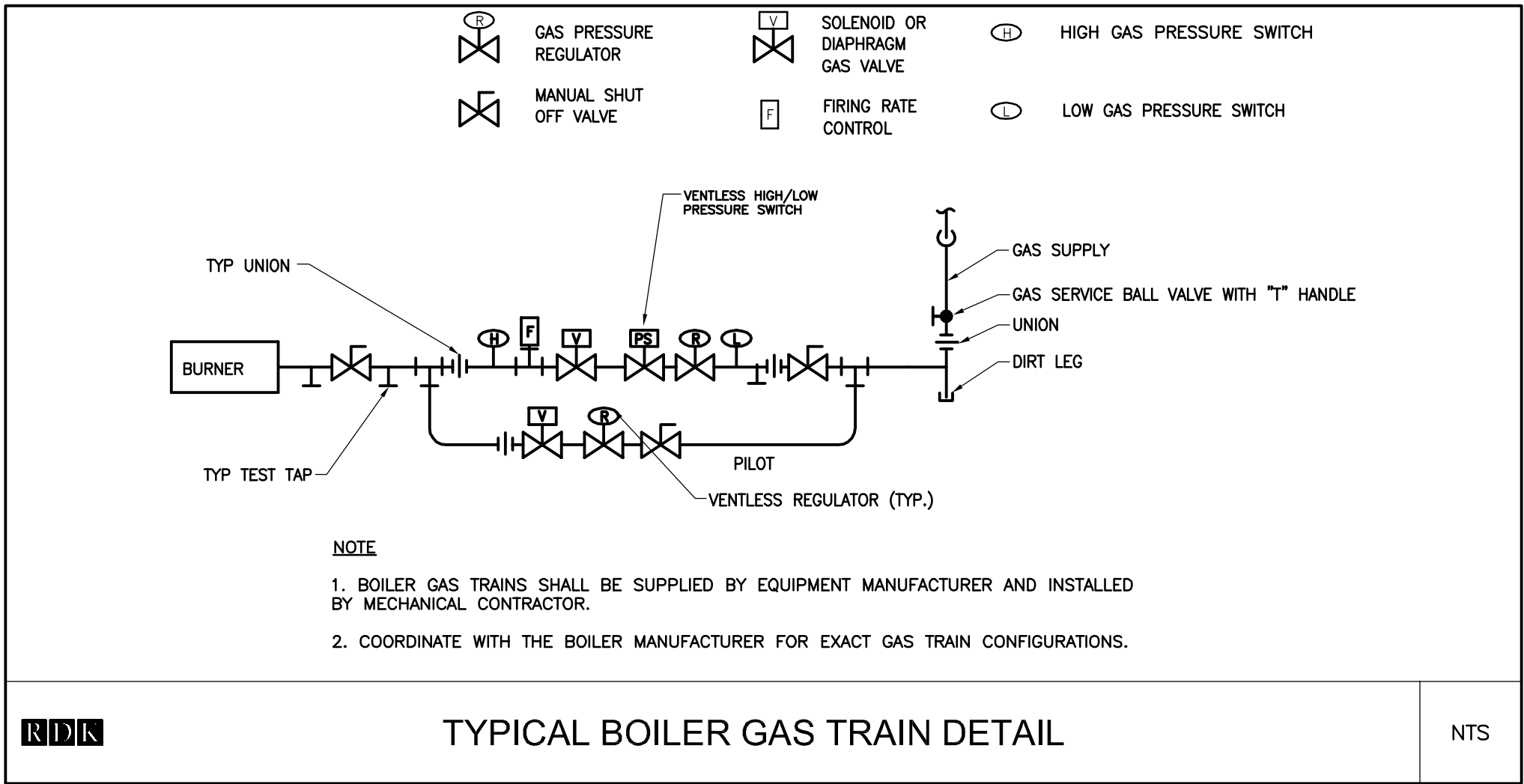
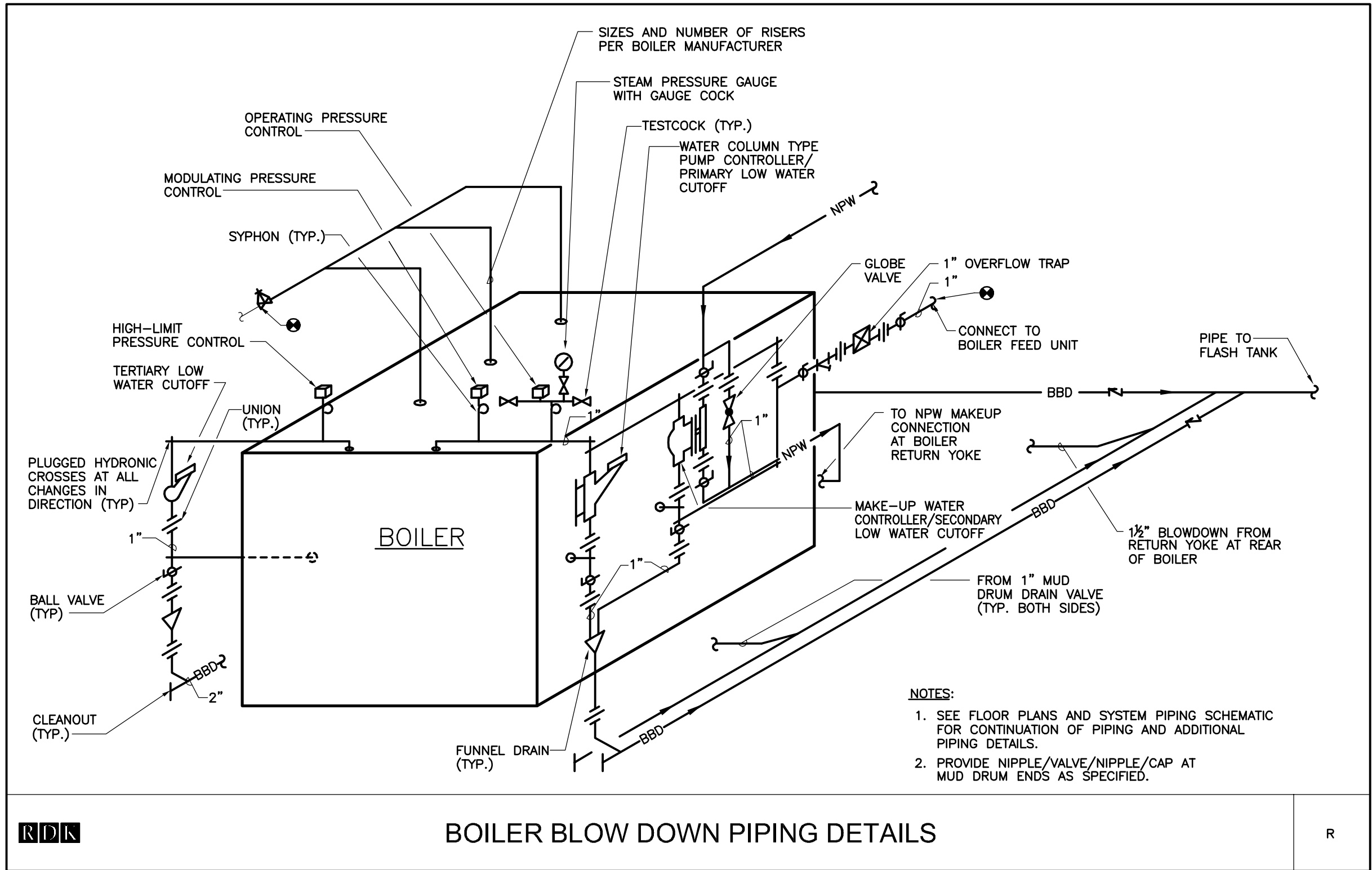
MECHANICAL - LOWER BOILER ROOM
NEW WORK PART PLAN
SCALE: 1/4"=1'-0"



MECHANICAL - UPPER BOILER ROOM
NEW WORK PART PLAN
SCALE: 1/4"=1'-0"

J:\2010\20100289 - Newton Williams School Boiler Vroom\Plot Sheets\20100289 M2.00 MECHANICAL BOILER ROOM NEW WORK PART PLAN.dwg [Layout1] August 18, 2010 1:55pm mwright

J:\2017\10\2010289 - Revoked Williams School Boiler Vessel Detail Sheet\2010289_M7.00_MECHANICAL_DETAILS & SCHEDULES.dwg [New] August 19, 2010 1:56pm mwright



REVISIONS			
▲	DATE	CHK	DESCRIPTION

SEAL

PROJECT
NUMBER 20100289
DATE 08-20-10
WILLIAMS ELEMENTARY SCHOOL
BOILER REPLACEMENT

141 GROVE STREET
AUBURNDALE, MA

DRAWING
DRAWN BY MW
CHECKED BY VW
SCALE NONE
MECHANICAL DETAILS

FOR CONSTRUCTION
08-20-10

J:\2010\10102289 - Newlin-Williams School Boiler/Vent-Rel- Sheets\2010102289_M8.00_MECHANICAL_DETAILS & SCHEDULES.dwg [New] August 18, 2010 -- 1:46pm mwright

ALTERNATE #1

DUAL FUEL BURNER																
SCHOOL	TAG	LOCATION	OUTPUT CAPACITY (GROSS 1=B=R)		FIRING RATE		FUEL INLET PRESSURE		BURNER						MANUFACTURER AND MODEL NUMBER (AS STANDARD)	REMARKS
			MBH	HP	GAS (CFH)	OIL (GPH)	GAS (IN.WG)	OIL (PSIG)	TYPE MAKE/MODEL	TURN DOWN	BLOWER					
											HP	V	PH			
WILLIAMS SCHOOL	B-1	BOILER ROOM	3297	98	4180	29	3.5	25	POWER FLAME	MODULATING	2	230	1	H.B. SMITH - 28A-S-13	NEW	
WILLIAMS SCHOOL	B-2	BOILER ROOM	3370	101	4060	10-29	3.5	25	POWER FLAME	MODULATING	2	230	1	H.B. SMITH - 28A-S-13	EXISTING TO REMAIN	
NOTE:																
1.																

ALTERNATE #1

BOILER SCHEDULE (DUAL FUEL)																
TAG	LOCATION	OUTPUT CAPACITY (GROSS I=B=R)		OUTPUT STEAM (LB./HR)	STEAM PSIG	BREECHING		FIRING RATE OIL GPH	FUEL INLET PRESSURE GAS/OIL (IN.WG)/(PSIG)	BURNER				MANUFACTURER AND MODEL NUMBER (AS STANDARD)	REMARKS	
		MBH	HP			"F	CFM			TYPE	TURN MODEL	BLOWER				
													HP	V	PH	
B-1	BOILER ROOM	3,297	98	2,778	15	–	2,400	29	4/25	GAS/OIL	POWERFLAME		2	230	1	H.B. SMITH – 28A–S–13 1, 2, 3
B-2	BOILER ROOM	3,297	98	2,778	15	–	2,400	29	4/25	GAS/OIL	POWERFLAME		2	230	1	H.B. SMITH – 28A–S–13
NOTES: 1. PROVIDE WITH MODULATING BURNER 2. PROVIDE WITH SINGLE POINT POWER CONNECTION 3. GAS TRAIN SHALL BE SIZED FOR 4"W.C. GAS PRESSURE INLET																

UNIT HEATER SCHEDULE (STEAM)															
TAG	LOCATION	TYPE	OUTPUT MBH	AIR			RPM	BHP	HP	MOTOR				MANUFACTURER AND MODEL NUMBER (AS STANDARD)	REMARKS
				CFM	EAT (°F)	LAT (°F)				ELECTRIC	SERVICE	HZ	V		
UH-1	BOILER ROOM	STEAM	140	1400	60	115	1050	—	1/20	60	115	1		STERLING HS-144	—
NOTES: 1. PROVIDE WITH LINE VOLTAGE THERMOSTAT, CONTROL VALVE, ACUASTAT															

FAN SCHEDULE																
TAG	SERVICE	LOCATION	CFM	FAN TYPE	E.S.P. (IN.WG)	WHEEL		OUTLET VELOCITY (FPM)	MOTOR				MANUFACTURER AND MODEL NUMBER (AS STANDARD)	REMARKS		
						DIA. (IN.)	TYPE		DRIVE	RPM	BHP	HP			V	PH
SF-1	COMB. AIR	BOILER ROOM	1100	PROPELLER	0.25	16"	PROP.	DIRECT	293	1140	0.15	1/6	115	1	COOK SWD - 16A11DA	1
SF-2	COMB. AIR	BOILER ROOM	1100	PROPELLER	0.25	16"	PROP.	DIRECT	293	1140	0.15	1/6	115	1	COOK SWD - 16A11DA	2
NOTES:																
1. INTERLOCK WITH BOILER NO. 1																
2. INTERLOCK WITH BOILER NO. 2																

AIR LOUVER SCHEDULE									
DESIGNATION	AREA SERVED	MANUFACTURER & PART NO.	LOUVER DEPTH	EXISTING OPENING SIZE	MINIMUM FREE AREA	FREE AREA PROVIDED	MAXIMUM VELOCITY	MAXIMUM PRESSURE DROP (IN INCHES W.G.)	REMARKS
L-1	BOILER ROOM COMBUSTION AIR INTAKE	RUSKIN-ELF375X STATIONARY LOUVER	4"	42"X36"	-	-	500 FPM	0.07	PROVIDE W/ BAKED ENAMEL FINISH MATCH BUILDING COLOR; COORDINATE W/OWNER AND INSECT SCREEN

BOILER FEED UNIT SCHEDULE												
TAG NO.	LOCATION	MANUFACTURER (AS STANDARD)	RECEIVER CAPACITY GALLONS (EDR)	CONDENSATE PUMP DATA							NPSH	REMARKS
				QTY	GPM	RPM	PSIG	MOTOR HP	VOLTS	PHASE	HZ	
BFU-1	MAIN BOILER ROOM	SKIDMORE MODEL VJSS-153	209	3	22.5	3500	30.0	1	208	3	60	2.0 1. PROVIDE WITH UNIT MOUNTED CONTROL PANEL. 2. PROVIDE STAINLESS STEEL CONSTRUCTION.

AIR COMPRESSOR SCHEDULE													
TAG NO.	TYPE	SYSTEM	CAPACITY (SCFM)	DISCHARGE PRESSURE (PSI)	MANUFACTURER	MODEL NO.	ELECTRICAL				AIR RECEIVER TANK (GALS)	LOCATION	REMARKS
							HP	VOLTS	PHASE	HZ			
CA-1	SCREW	ATC	17	125	QUINCY	QGS	5	208	3	60	60	BOILER ROOM	
NOTES: 1. X 2. X 3. X													

FOR CONSTRUCTION
08-20-10

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REVISIONS
DATE CHK DESCRIPTION

SEAL

PROJECT

NUMBER
20100289

DATE:
08-20-10

WILLIAMS ELEMENTARY
SCHOOL
BOILER REPLACEMENT

141 GROVE STREET
AUBURNDALE, MA

DRAWING

DRAWN BY _____
MW

CHECKED BY _____
VW

SCALE _____
NONE

MECHANICAL
SCHEDULES

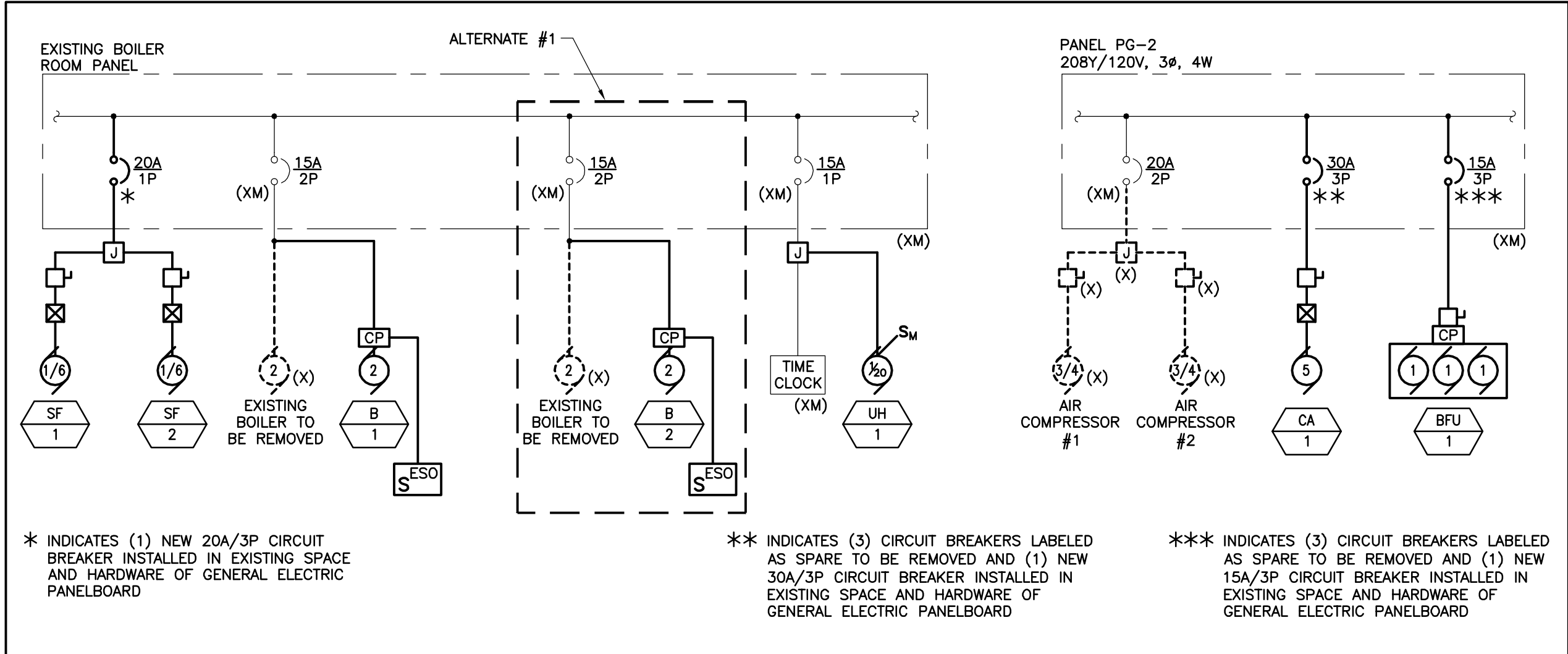
\\2017\20100289 - Revise Williams School Boiler Electrical Plan Sheets\20100289 - E0.00 ELECTRICAL LEGENDS, NOTES, & ABBREVIATIONS.dwg [New] August 18, 2010 1:55pm mwright

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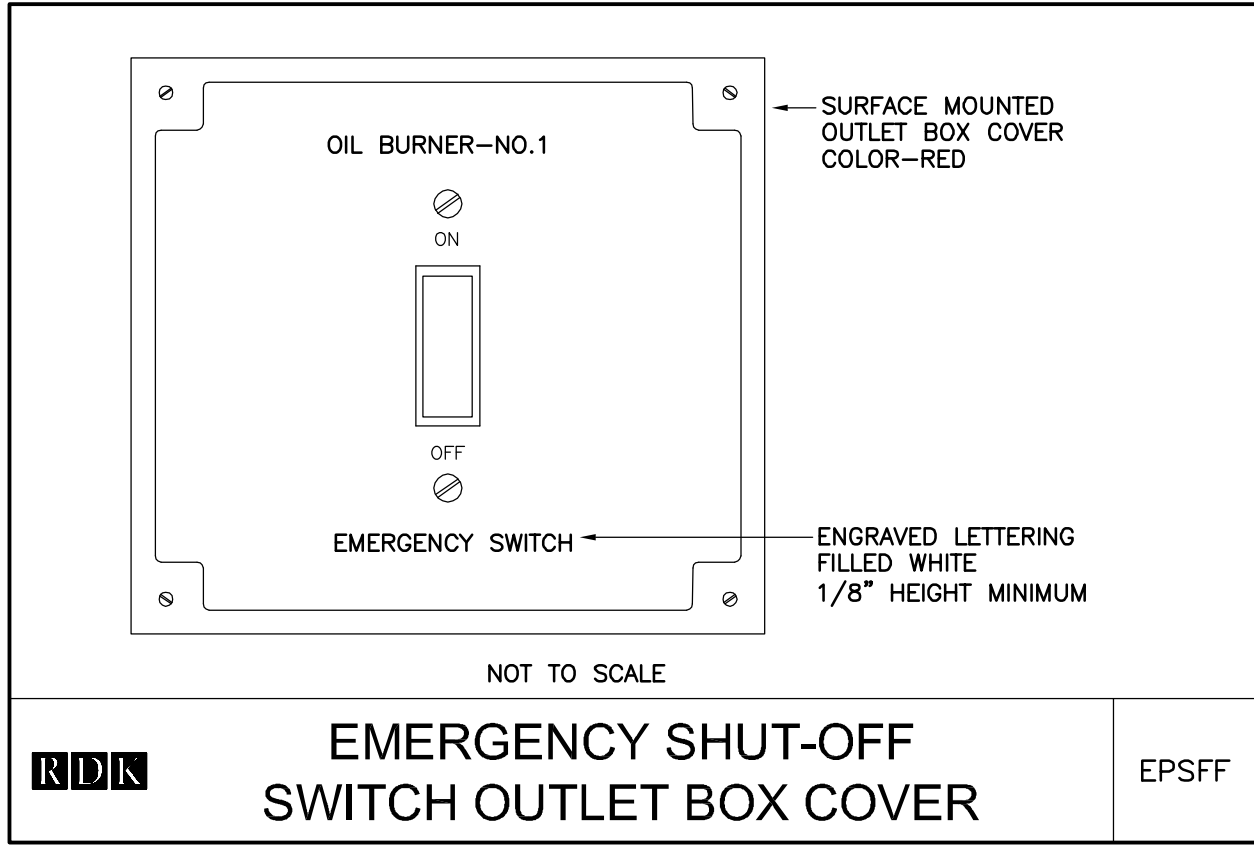
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ALTERNATE #1

MECHANICAL EQUIPMENT SCHEDULE																																																
LOAD TAG	DESCRIPTION	STARTER LOCATION	LOAD					STARTER													POWER SOURCE		CONNECTION						BRANCH CIRCUIT	REMARKS																		
			HP	FLA	KVA	VOLT	PH	NEMA SIZE	TYPE	OVERCURRENT			INDICATING LIGHTS			AUXILIARY		PANEL	C/B	FLEX	JB	REC	DISC																									
										CB	FUSE	MCP	PB	HOA	R	G	A						CPT	CONTACTS		AS	AF	NEMA																				
																								NO	NC																							
B-1	BOILER	PACKAGED	2	-	-	230	1	-	-	-	-	-	-	-	-	-	-	-	-	BOILER ROOM PANEL	15A/2P	X	-	-	30	20	1	(3)#12,(1)#12G. IN 3/4" C.	}																			
B-2	BOILER	PACKAGED	2	-	-	230	1	-	-	-	-	-	-	-	-	-	-	-	-	BOILER ROOM PANEL	15A/2P	X	-	-	30	20	1	(3)#12,(1)#12G. IN 3/4" C.																				
BFU-1	BOILER FEED UNIT	PACKAGED	1	4.6	1.7	208	3	-	-	-	-	-	-	-	-	-	-	-	-	PG-2	15A/3P	X	-	-	30	20	1	(3)#12,(1)#12G. IN 3/4" C.																				
CA-1	AIR COMPRESSOR	PACKAGED	5	16.7	6.0	208	3	-	-	-	-	-	-	-	-	-	-	-	-	PG-2	30A/3P	X	-	-	30	-	1	(4)#10,(1)#10G. IN 3/4" C.																				
SF-1	SUPPLY FAN		1/6	4.4	0.5	120	1	00	FVNR	-	-	-	-	X	X	X	-	-	2	2	BOILER ROOM PANEL	20A/1P	X	-	-	30	-	1	(2)#12,(1)#12G. IN 3/4" C.	CONTROL SEQUENCE BY OTHERS																		
SF-2	SUPPLY FAN		1/6	4.4	0.5	120	1	00	FVNR	-	-	-	-	X	X	X	-	-	2	2			X	-	-	30	-	1	(2)#12,(1)#12G. IN 3/4" C.																			
UH-1	UNIT HEATER		1/20	.95	-	115	1	-	MMS	-	-	-	-	-	-	-	-	-	-	BOILER ROOM PANEL	15A/1P	X	-	-	-	-	-	(2)#12,(1)#12G. IN 3/4" C.																				
NOTES																													KEY:																			
1. NOTES 2-5 APPLY TO ALL APPLICABLE LOADS.																													FVNR FULL VOLTAGE NON-REVERSING										MCP MOTOR CIRCUIT PROTECTOR									
2. PROVIDE THERMAL OVERLOAD UNITS FOR ALL STARTERS SIZED TO MATCH LOAD NAMEPLATE AND NEC REQUIREMENTS.																													FVR FULL VOLTAGE REVERSING										PB START AND STOP PUSH BUTTON									
3. BRANCH CIRCUIT WIRING METHODS SHALL BE AS NOTED ON THE DRAWINGS AND/OR SPECIFICATIONS FOR THE APPLICABLE LOCATION. THE FINAL THREE FEET (MAXIMUM) SHALL BE FLEXIBLE METAL OR LIQUIDTIGHT FLEXIBLE METAL CONDUIT.																													251W TWO SPEED SINGLE WINDING										HOA HAND-OFF-AUTOMATIC SELECTOR SWITCH									
4. COPPER BRANCH CIRCUIT CONDUCTOR SIZING BASED UPON NEC TABLE 310.16. MAKE ADJUSTMENTS TO CONDUCTORS FOR TEMPERATURE OR VOLTAGE DROP THAT EXCEED NEC AND SPECIFICATION CRITERIA.																													252W TWO SPEED TWO WINDING										CPT CONTROL POWER TRANSFORMER									
5. RACEWAY SIZES ARE BASED UPON GRSC AND LFMC WITH THWN CONDUCTORS.																													RVAT REDUCED VOLTAGE AUTOTRANSFORMER										VFD VARIABLE FREQUENCY DRIVE W/O BYPASS									
6. VFD SHALL BE CONTROLLED VIA REMOTE 4-20mA OR 0-5V SIGNAL PROVIDED BY THE HVAC ATC CONTRACTOR.																													RVPW REDUCED VOLTAGE PART WINDING										VFD/B VARIABLE FREQUENCY DRIVE W/ BYPASS									
7. REQUIRED DISCONNECT IS PROVIDED INTEGRAL/PREWIRE TO MECHANICAL EQUIPMENT.																													RVYDOT REDUCED VOLTAGE WYE DELTA OPEN TRANSITION										CNTRC CONTACTOR - NO THERMAL OVERLOAD									
8. REQUIRED STARTER IS PROVIDED INTEGRAL/PREWIRE TO MECHANICAL EQUIPMENT.																													RVYDCT REDUCED VOLTAGE WYE DELTA CLOSED TRANSITION																			
9. DISCONNECT FOR 251W AND 252W MOTORS SHALL BE SIX POLE.																													MMS MANUAL MOTOR STARTER																			
10. PROVIDE NEUTRAL FROM SOURCE TO STARTER ONLY FOR 120V CONTROL POWER OF 208V 3PH UNITS.																													CB CIRCUIT BREAKER																			
11. FUSES FOR DISCONNECT SWITCHES SHALL BE CLASS RK5.																																																



RDk
PARTIAL POWER ONE LINE DIAGRAM



LEGEND NOTES:
1. REFER TO SPECIFICATIONS, APPLICABLE SCHEDULES AND DETAILS FOR ADDITIONAL INFORMATION ASSOCIATED WITH EACH DEVICE ILLUSTRATED ON THIS LEGEND.
2. SUBSCRIPTS ILLUSTRATED ON THE LEGEND WITH ONE SYMBOL ONLY TO MINIMIZE SPACE. ANY SUBSCRIPT INDICATED WITHIN A LEGEND FAMILY MAY BE APPLIED TO A CORRESPONDING SYMBOL.
3. ABBREVIATIONS SUCH AS "WP" MAY BE APPLIED TO ANY SYMBOL.

SWITCH LEGEND	
ESO	BURNER EMERGENCY SHUT OFF SWITCH
TS	ELECTRICAL THERMAL SWITCH-FIRESTAT

WIRING DEVICE LEGEND	
J	JUNCTION BOX
PB	PULLBOX

MOTOR & CONTROLS LEGEND	
SM	MANUAL MOTOR STARTING SWITCH WITH THERMAL OVERLOAD PROTECTION
60AS 3R	DISCONNECT SWITCH RATED 30AMP, 3-POLE, IN NEMA TYPE 1 ENCLOSURE, UNLESS OTHERWISE NOTED. "3R" - INDICATES NEMA TYPE 3R ENCLOSURE "2P" - INDICATES 2 POLE SINGLE PHASE DISCONNECT "60AS" - INDICATES 60A SWITCH
60AS 50AF	FUSED DISCONNECT SWITCH, 3-POLE, IN NEMA TYPE 1 ENCLOSURE, UNLESS OTHERWISE NOTED. "3R" - INDICATES NEMA TYPE 3R ENCLOSURE "60AS" - INDICATES 60AMP SWITCH "50AF" - INDICATES 50AMP FUSES
2	MOTOR, NUMERAL INDICATES HORSEPOWER "2" - INDICATES HORSEPOWER RATING
CP	EQUIPMENT CONTROL PANEL
⊗	MAGNETIC MOTOR STARTER, REFER TO MAGNETIC MOTOR STARTER & VFD SCHEDULE FOR TYPE, SIZE AND ENCLOSURE

GENERAL DEMOLITION NOTES

1. REFER TO THIS DRAWING FOR LEGEND, SYMBOLS AND GENERAL NOTES.

2. REFER TO THE MECHANICAL DRAWINGS FOR THE FULL EXTENT OF THE SCOPE OF DEMOLITION. DISCONNECT AND MAKE SAFE ALL ELECTRICAL EQUIPMENT IDENTIFIED FOR REMOVAL ON THE HVAC AND PLUMBING PLANS. THE ELECTRICAL SCOPE MAY EXTEND BEYOND THE AREA DEFINED BY THE MECHANICAL DEMOLITION LIMITS TO FULLY COMPLY WITH VARIOUS REQUIREMENTS DEFINED BY THESE NOTES.

3. THE ELECTRICAL DEMOLITION PLANS AND DETAILS INDICATE THE GENERAL INTENT AND ARE NOT INTENDED TO SHOW ALL ITEMS TO BE REMOVED OR RETAINED. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO THE SUBMISSION OF BIDS TO BECOME FAMILIAR WITH THE ACTUAL CONDITIONS AND EXTENT OF WORK. DEVICES AND EQUIPMENT LOCATED ON WALLS AND/OR CEILINGS TO BE REMOVED SHALL BE DISCONNECTED AND MADE SAFE. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE OF ANY UNANTICIPATED HIDDEN CONDITIONS ENCOUNTERED DURING DEMOLITION.

4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ALL SYSTEMS OR BUILDING COMPONENTS DAMAGED DURING THE EXECUTION OF THE WORK. DAMAGE SHALL INCLUDE BUT NOT BE LIMITED TO DESTRUCTION OR DISPOSAL OF ITEMS INTENDED TO REMAIN OR TO BE SALVAGED.

5. THE ELECTRICAL CONTRACTOR SHALL CIRCUIT TRACE AND LABEL ALL EXISTING BRANCH CIRCUITS AND FEEDERS WITHIN THE AREA OF DEMOLITION SCOPE PRIOR TO DE-ENERGIZING AND DISCONNECTION. ALL CIRCUITS WITHIN PANELBOARDS IDENTIFIED FOR REMOVAL SHALL BE TRACED AND LABELED TO ENSURE THAT NO AREA OUTSIDE THE DEMOLITION SCOPE LIMIT IS AFFECTED.

6. THE ELECTRICAL CONTRACTOR SHALL IDENTIFY ALL BRANCH CIRCUITS, FEEDERS AND SYSTEM COMPONENTS, WHICH ARE TO REMAIN WITHIN THE AREA OF DEMOLITION SCOPE. THERE SHALL BE NO INTERRUPTION OF SERVICE TO ANY AREA OUTSIDE THE SCOPE LIMITS WITHOUT APPROVAL FROM THE OWNER'S REPRESENTATIVE. EXISTING EQUIPMENT TO REMAIN SHALL BE LEFT IN A CODE COMPLIANT MANNER.

7. THE ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND REMOVE ALL CONDUCTORS AND RACEWAYS TO THEIR POINTS OF ORIGIN WITHIN THE AREA OF DEMOLITION SCOPE. ITEMS IDENTIFIED FOR DEMOLITION SHALL NOT BE ABANDONED IN PLACE. RACEWAYS THAT ENTER MASONRY WALLS AND FLOORS SHALL BE CUT FLUSH AT THE SURFACE FOR PATCHING BY OTHERS. ALL CIRCUIT BREAKERS ASSOCIATED WITH THE DEMOLITION SCOPE SHALL BE DE-ENERGIZED AND LABELED SPARE.

8. THE ELECTRICAL CONTRACTOR SHALL TEMPORARILY SUPPORT ALL ITEMS TO REMAIN THAT ARE AFFECTED BY THE DEMOLITION OF BUILDING STRUCTURAL COMPONENTS (WALLS, CEILINGS, ETC.). TEMPORARILY SUPPORTED ITEMS SHALL BE PERMANENTLY SUPPORTED AND INSTALLED WHEN FINALIZED STRUCTURES ARE IN PLACE.

9. ALL REMOVED ITEMS SHALL BE LEGALLY DISPOSED OF UNLESS IDENTIFIED FOR REUSE. THE OWNER'S REPRESENTATIVE SHALL INSPECT ALL RETAINED ITEMS PRIOR TO PLACEMENT IN THE IDENTIFIED STORAGE LOCATION BY THE ELECTRICAL CONTRACTOR.

POWER DISTRIBUTION	
—	208Y/120 VOLT PANELBOARD, SURFACE MOUNTED REFER TO SCHEDULE OF PANELBOARDS
⊕	UTILITY METER AND SOCKET

BRANCH CIRCUIT & FEEDER LEGEND	
#### R22A-1,3,5	BRANCH CIRCUIT HOME RUN TICKS INDICATE QUANTITY OF CONDUCTORS. GROUND CONDUCTORS ARE NOT INDICATED. NO TICKS INDICATES 2#12 & 1#12G IN 3/4"C MINIMUM. R22A-1,3,5 INDICATES PANEL AND CIRCUIT DESIGNATION FROM WHICH HOMERUN SHALL ORIGINATE. EACH CIRCUIT SHALL BE 20A-1P (20AMP SINGLE POLE) UNLESS NOTED OTHERWISE.
~•	FLEXIBLE CONNECTION TO EQUIPMENT. RACEWAY AND CONDUCTOR RATING TO MATCH ASSOCIATED BRANCH CIRCUIT OR FEEDER

EXISTING EQUIPMENT LEGEND	
XM	EXISTING EQUIPMENT TO REMAIN
XR	EXISTING EQUIPMENT TO BE REMOVED
XL	EXISTING EQUIPMENT TO BE RELOCATED
XE	EXISTING EQUIPMENT TO BE REMOVED AND BRANCH/FEEDER EXTENDED TO NEW LOCATION
XN	EXISTING EQUIPMENT TO BE REMOVED AND NEW EQUIPMENT TO BE INSTALLED ON EXISTING BRANCH/FEEDER
□	EXISTING EQUIPMENT FOR INFORMATION ONLY- INDICATED BY SYMBOL WITH LIGHT AND OUT OF FUNCTION LINE TYPE
□	EXISTING EQUIPMENT TO BE REWORKED- INDICATED BY SYMBOL WITH DASHED AND IN FUNCTION LINE TYPE

ABBREVIATIONS		
A/AMP	AMPERE	KW KILOWATT
AC	ALTERNATION CURRENT	KWH KILOWATT HOURS
ADA	AMERICAN WITH DISABILITIES ACT	LTG LIGHTING
AF	AMPERE FRAME	MCB MAIN CIRCUIT BREAKER
AFB	ABOVE FINISHED FLOOR	MEC MASSACHUSETTS ELECTRICAL CODE
AFG	ABOVE FINISHED GRADE	M/G MOTOR/GENERATOR SET
AIC	AMPERE INTERRUPTING CAPACITY	MH MANHOLE
AL	ALUMINUM	MLO MAIN LUGS ONLY
AT	AMPERE TRIP	MTD MOUNTED
ATS	AUTOMATIC TRANSFER SWITCH	MTG MOUNTING
AWG	AMERICAN WIRE GAUGE	NC NORMALLY CLOSED CONTACT
B	BURIED	NEC NATIONAL ELECTRICAL CODE
C	CONDUIT	NO NORMALLY OPEN CONTACT
CA	CABLE	NTS NOT TO SCALE
CATV	CABLE TELEVISION	# NUMBER
CCTV	CLOSED CIRCUIT TELEVISION SYSTEM	OPD OVER CURRENT PROTECTION DEVICE
CB	CIRCUIT BREAKER	POS PROVIDED UNDER OTHER SECTIONS
CKT	CIRCUITS	PVC POLYVINYL CHLORIDE
CPU	CENTRAL PROCESSING UNIT	PWR POWER
√E	CENTERLINE	RGS RIGID GALVANIZED STEEL
dB	DECIBEL	RMS ROOT MEAN SQUARE VALUE
DC	DIRECT CURRENT	RPM REVOLUTIONS PER MINUTE
DWG	DRAWING	SN SOLID NEUTRAL
EC	ELECTRICAL CONTRACTOR	SWBD SWITCHBOARD
EMT	ELECTRIC METALLIC TUBING	TB TERMINAL BLOCK
FDR	FEEDER	TEL TELEPHONE
FLMT	FLEXIBLE LIQUID TIGHT METALLIC TUBING	TERMN TERMINAL
FREQ	FREQUENCY	TSP TWISTED SHIELDED-PAIR
GEC	GROUNDING ELECTRODE CONDUCTOR	TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR
GFI	GROUND FAULT INTERRUPTING	TYP TYPICAL
GND	GROUND	UG UNDERGROUND
HH	HANDHOLE	UNO UNLESS NOTED OTHERWISE
HP	HORSEPOWER	UPS UNINTERRUPTIBLE POWER SUPPLY
HVAC	HEATING, VENTILATING AND AIR CONDITIONING	UTP UNSHIELDED TWISTED-PAIR
HZ	HERTZ	V VOLTS
IG	ISOLATED GROUND	VA VOLT-AMPERE
JB	JUNCTION BOX	VSD VARIABLE SPEED DRIVE
KVA	KILOVOLT-AMPERE	W WATTS
		WP WEATHERPROOF

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REVISIONS		
▲	DATE	CHK DESCRIPTION

SEAL

PROJECT

NUMBER 20100289

DATE 08-20-10

WILLIAMS ELEMENTARY SCHOOL
BOILER REPLACEMENT

141 GROVE STREET
AUBURNDALE, MA

DRAWING

DRAWN BY MW

CHECKED BY EP

SCALE NONE

ELECTRICAL
LEGENDS, NOTES
& ABBREVIATIONS

FOR CONSTRUCTION
08-20-10

J:\2010\201002289 - Newton Williams School Boiler Electrical\Plot Sheets\201002289 E2.00 ELECTRICAL BOILER ROOM DEMOLITION AND NEW WORK PART PLANS.dwg [User:1] August 18, 2010 -- 1:56pm mwright

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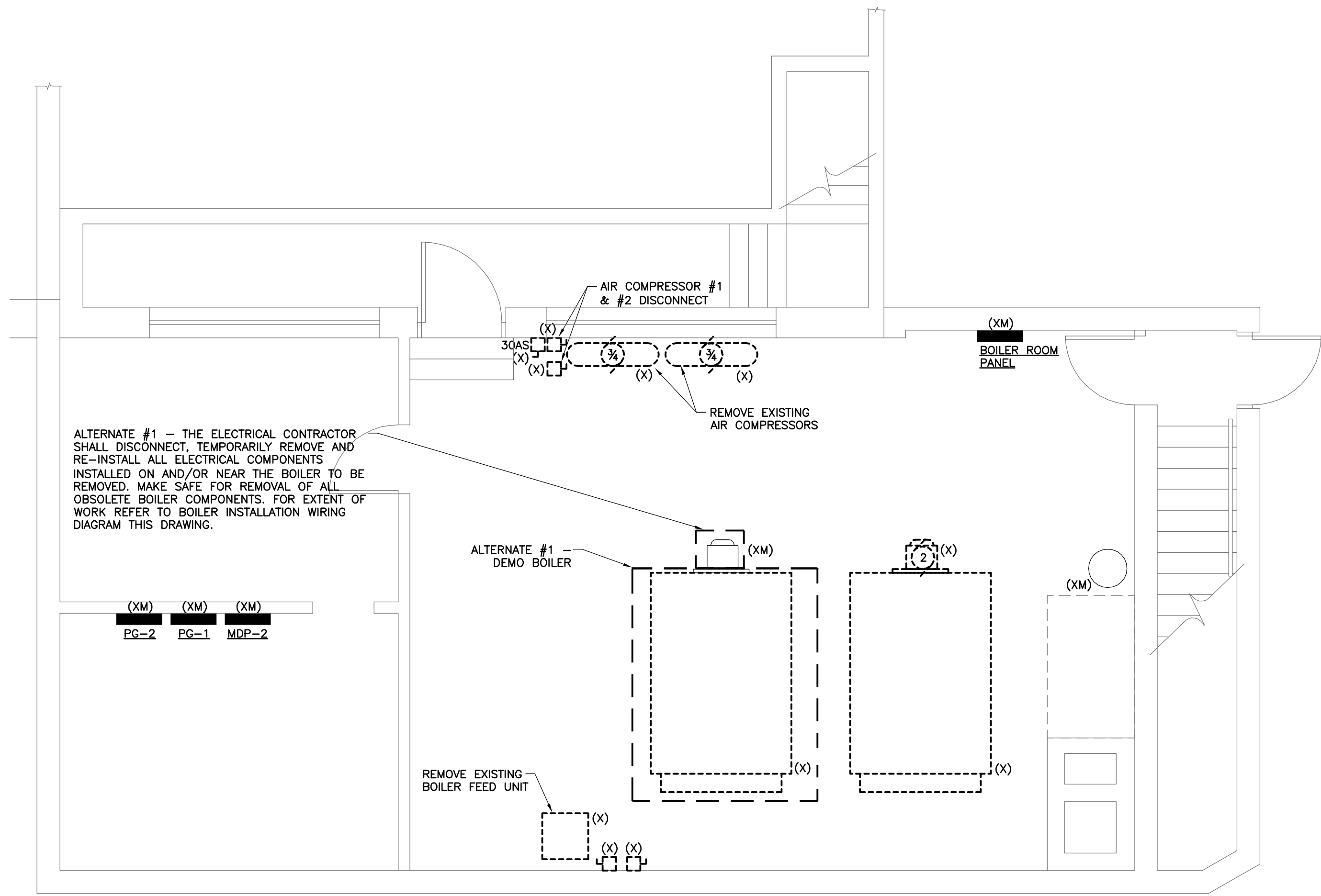
DRAWING

DRAWN BY
MW

CHECKED BY
EP

SCALE
1/4" = 1'-0"

ELECTRICAL
BOILER ROOM
DEMOLITION &
NEW WORK POWER
PART PLANS

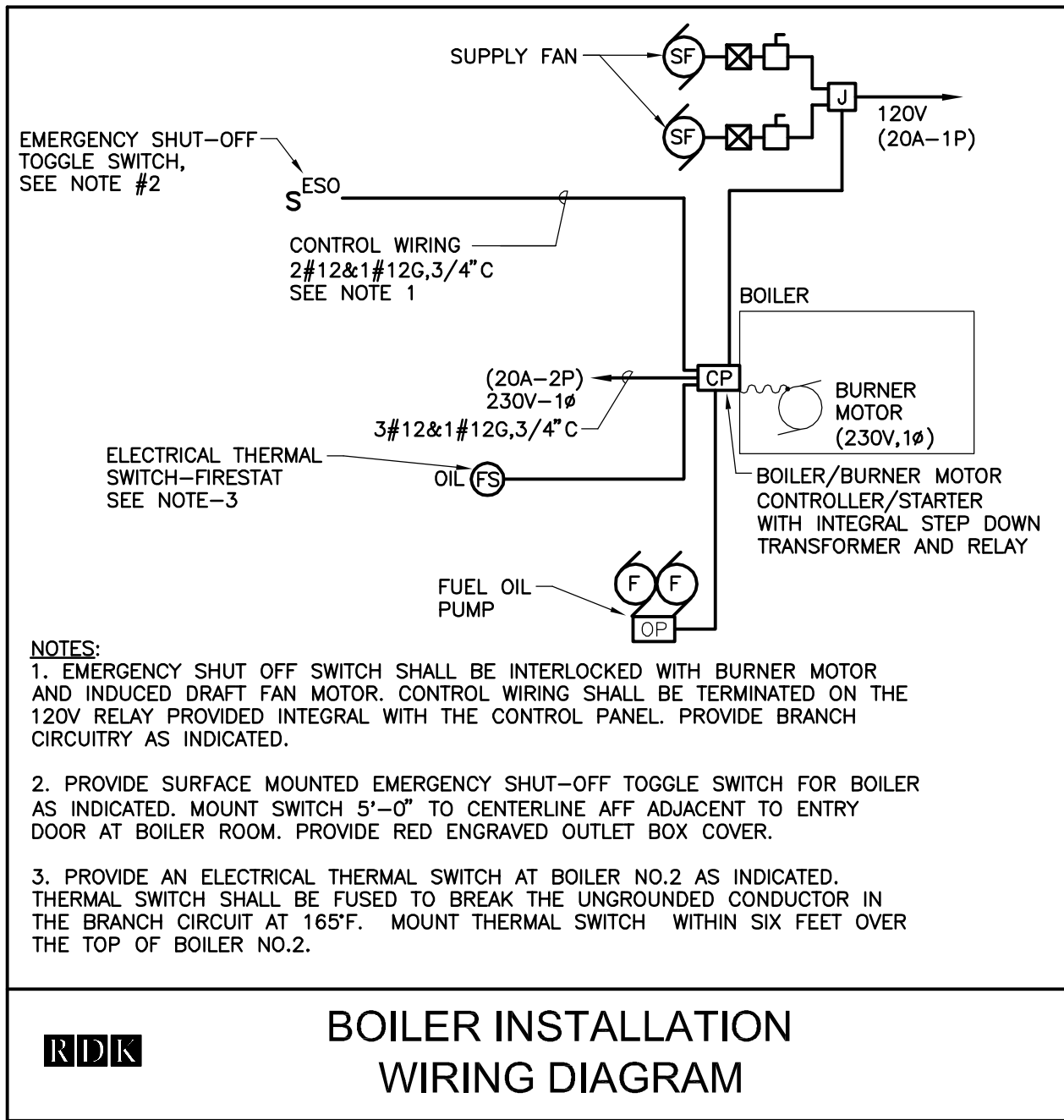


ELECTRICAL - BOILER ROOM
DEMOLITION PART PLAN

SCALE: 1/4"=1'-0"

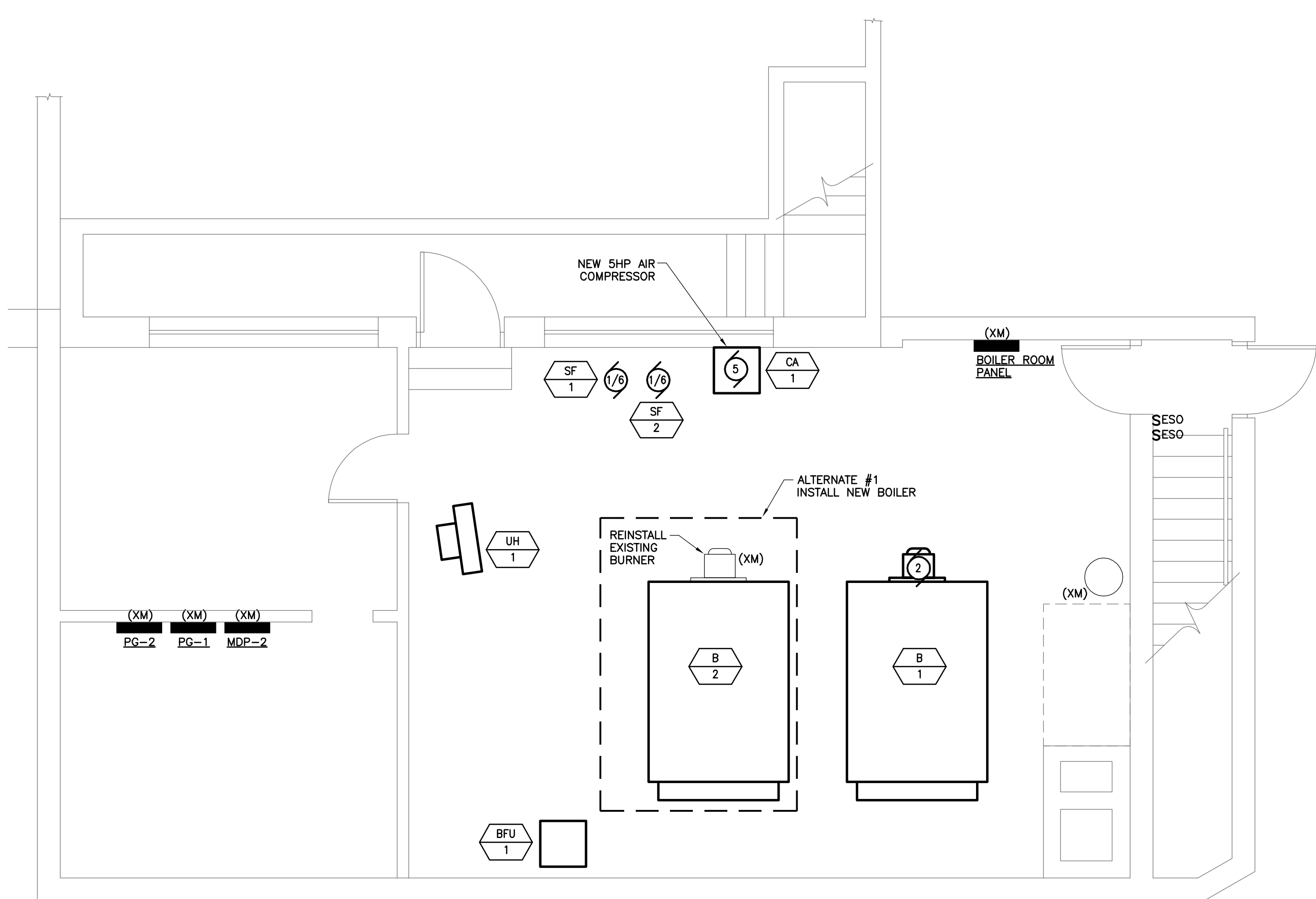
POWER DEMOLITION NOTES:

1. DISCONNECT POWER FROM ALL MECHANICAL EQUIPMENT SCHEDULED FOR REMOVAL AND MAKE SAFE FOR DEMOLITION.
2. ELECTRICAL DEMOLITION SHALL INCLUDE THE REMOVAL OF ALL ASSOCIATED ELECTRICAL EQUIPMENT - DISCONNECT SWITCHES, MOTOR STARTERS AND/OR CONTROL COMPONENTS. THIS SHALL ALSO INCLUDE THE REMOVAL OF FEEDER CIRCUITRY, (CONDUIT AND CONDUCTORS), FROM THE EQUIPMENT BACK TO THE RESPECTIVE PANEL/POWER SOURCE UNLESS NOTED OTHERWISE.
3. TRACE AND VERIFY ALL FEEDER CIRCUITS PRIOR TO DEMOLITION IN ACCORDANCE WITH GENERAL DEMOLITION NOTE-5 ON DRAWING E0.00.
4. EXISTING CIRCUIT BREAKERS PREVIOUSLY SERVING LOADS SCHEDULED FOR REMOVAL, AND NOT DESIGNATED FOR REUSE SHALL BE TURNED OFF AND LABELED SPARE.



- NOTES:
1. EMERGENCY SHUT OFF SWITCH SHALL BE INTERLOCKED WITH BURNER MOTOR AND INDUCED DRAFT FAN MOTOR. CONTROL WIRING SHALL BE TERMINATED ON THE 120V RELAY PROVIDED INTEGRAL WITH THE CONTROL PANEL. PROVIDE BRANCH CIRCUITRY AS INDICATED.
 2. PROVIDE SURFACE MOUNTED EMERGENCY SHUT-OFF TOGGLE SWITCH FOR BOILER AS INDICATED. MOUNT SWITCH 5'-0" TO CENTERLINE AFF ADJACENT TO ENTRY DOOR AT BOILER ROOM. PROVIDE RED ENGRAVED OUTLET BOX COVER.
 3. PROVIDE AN ELECTRICAL THERMAL SWITCH AT BOILER NO.2 AS INDICATED. THERMAL SWITCH SHALL BE FUSED TO BREAK THE UNGROUNDED CONDUCTOR IN THE BRANCH CIRCUIT AT 165°F. MOUNT THERMAL SWITCH WITHIN SIX FEET OVER THE TOP OF BOILER NO.2.

BOILER INSTALLATION
WIRING DIAGRAM



MECHANICAL - BOILER ROOM
NEW WORK PART PLAN

SCALE: 1/4"=1'-0"

NEW WORK POWER NOTES:

1. REFER TO DRAWING E0.00 FOR LEGEND, SYMBOLS AND GENERAL NOTES.
2. REFER TO MECHANICAL DRAWINGS FOR ASSOCIATED NOTES, MOUNTING DETAILS, HEIGHTS AND EXACT LOCATIONS OF EQUIPMENT.
3. REFER TO THIS DRAWING FOR BOILER BURNER MOTOR SCHEMATIC WIRING DIAGRAM.
4. PROVIDE SURFACE MOUNTED EMERGENCY SHUT-OFF TOGGLE SWITCH FOR NEW BOILER (B-1). MOUNT SWITCH 6'-0" TO CENTERLINE AFF ADJACENT TO ENTRY DOOR AT BOILER ROOM. PROVIDE RED ENGRAVED OUTLET BOX COVER. WIRE SHUT-OFF TOGGLE SWITCH TO NEW BOILER CONTROL PANEL. ASSUME (2) #12(1) #12G. IN 3/4" C. PRIOR TO ROUGH-IN CONTRACTOR TO CONFIRM WIRING WITH MANUFACTURES RECOMMENDATIONS FOR WIRING CONNECTIONS FOR A COMPLETE SYSTEM.
5. CIRCUIT NUMBERS ARE DIAGRAMMATIC. EXACT NUMBERS SHALL BE DETERMINED IN THE FIELD AND REFLECTED ON AS-BUILT DOCUMENTATION BY THE ELECTRICAL CONTRACTOR. THE ASSOCIATED CIRCUIT NUMBERS THAT ARE APPLIED TO EACH DEVICE AND PIECE OF EQUIPMENT INFERS INTERCONNECTING BRANCH CIRCUITRY. INTERCONNECTING BRANCH WIRING SHALL BE SIZED EQUAL TO THE HOMERUN UNLESS NOTED OTHERWISE.
6. POWER BRANCH CIRCUITRY SHALL BE INSTALLED IN CONDUIT FROM THE PANEL TO THE FIRST DEVICE AND/OR WHERE EXPOSED. POWER BRANCH CIRCUITRY MAY BE TYPE MC CABLE WHERE CONCEALED ABOVE SUSPENDED CEILINGS AND IN METAL STUD WALLS.
7. MAINTAIN CONTINUITY OF BRANCH CIRCUITRY ASSOCIATED WITH ALL EXISTING POWER DEVICES TO REMAIN.

FOR CONSTRUCTION
08-20-10

1/4" = 1' - 0"

